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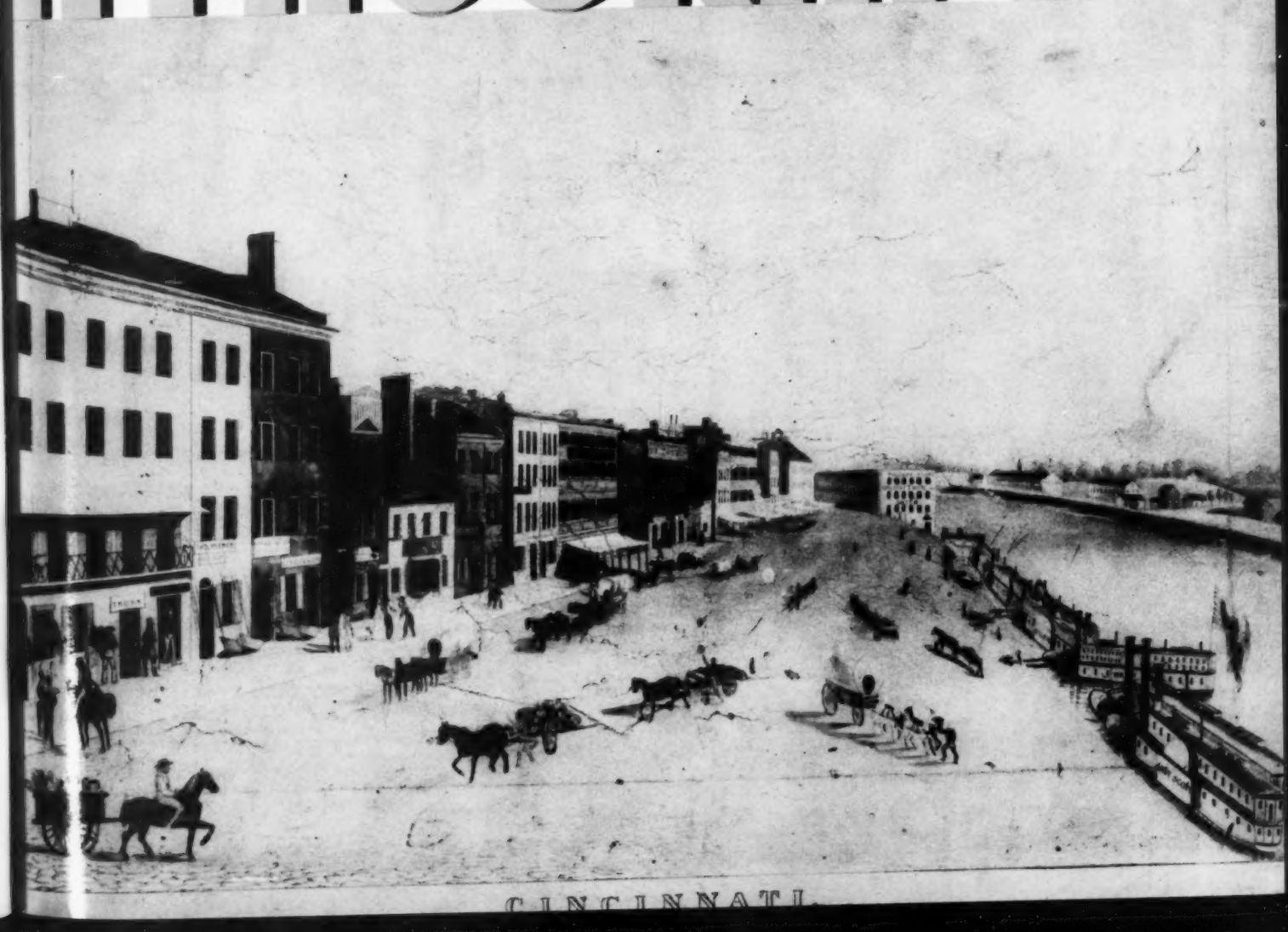
LITHOGRAPHY



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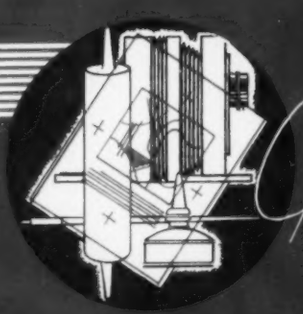

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Each month we will briefly describe an outstanding item in the Senefelder group of supplies for the lithographer.

DURALAC LACQUER

It has been demonstrated that deep-etch plates treated with Duralac Lacquer will stand up under much longer runs and give better results than ordinary lithographic plates. This also holds true for albumen plates and transfer plates. For the printing images on these can be improved and strengthened by Duralac Lacquer so that they will give longer runs and better impressions regardless of whether the plate is zinc or aluminum.

Duralac Lacquer is a specially prepared chemical solution which forms an impervious film on zinc and aluminum plates. This film is insoluble in the commonly used lithographic solvents, etches, counter-etches, etc., and preserves the printing image perfectly.

Duralac Lacquer not only increases the number of impressions that can be taken from the plate by building-up the printing image, but also lessens the usual troubles encountered in the course of lithographing; it positively holds the work to the metal and rolls-up a sharp and clear printing image.

Duralac Lacquer possesses exceptional ink-absorbing properties which keep it from drying and forming an objectionable hard or glazed surface. It permits the plate to be rolled-up immediately, without drying and without the aid of asphaltum or similar agents.

Duralac Lacquer can be rubbed smooth on the plate before it dries without leaving any streaks behind; after it has been rubbed-down on the plate it dries quickly.

Duralac Lacquer makes lithographic plates foolproof and enables them to stand considerable abuse. For instance, water, acid or turpentine inadvertently applied to a plate will not spoil it.

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Duralac Lacquer can be removed easily from open areas of the plate by applying a wet sponge to it. No felt pad or any rubbing is required to remove it; consequently no damage can be done to the printing image.

Duralac Lacquer is low in cost; packed in quart containers it sells at $4.00 per quart; in pint containers at $2.50 per pint.

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"Everything for Lithography"

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MODERN LITHOGRAPHY

PUBLISHED IN THE INTERESTS OF LITHOGRAPHERS EVERYWHERE

THE COVER

Cincinnati, scene of the 9th Annual N. A. P. L. Convention, around 1840 when the first lithographic plant in Ohio was established. See page 34.

September, 1941

Volume 9 No. 9

Do you know who Emil Klauprech and Adolphus Menzel were? Are you familiar with the names Tuchfarber, Donaldson, Henderson, Strobridge, Wallace, Heekin, Zimmerman, Middleton? Messrs. Klauprech and Menzel were the first gentlemen to found a lithographic establishment in the Buckeye State, which this month is host to the National Association of Photo-Lithographers. As for the others—well, it might be interesting to read about them and brush up on lithography in one of the industry's most progressive states. (*Page 34*)

Much work has been done regarding the composition and characteristics of fountain solutions on the offset press. However, most of the discussion has been confined to the action of the fountain solution on the lithographic plate. Little has been written and practically no controlled research has been conducted on the relationship of fountain water to litho inks. Thomas J. Craig, of Krebs Pigment & Color, has sought to remedy this neglect. (*Page 47*)

Kodachromes are much in the lithographic news. Lithographers are constantly discussing ways and means to reproduce kodachromes efficiently, economically and accurately. However, some study of the fundamentals of making the original kodachrome copy itself, what type of subjects lends itself best to kodachrome photography, etc., should certainly put the lithographer in a better position to offer his customer some good advice on the subject—and thereby help himself. (*Page 55*)

WHAT YOU WILL FIND IN THIS ISSUE

	Page
Editorials	25
An Open Letter to Lithographers *By W. Floyd Maxwell*	26
N. A. P. L. Meets at Cincinnati	27
The Lithographic Technical Foundation	30
Offset Press Specification Chart	32
The Ohio Litho Industry	34
Fountain Solutions *By Thomas J. Craig*	47
Color Separations *By L. L. Perskie*	51
Making Kodachromes *By I. H. Sayre*	55
Intensification	58
Defense and Lithography	61
Offset Platemaking *By Don Nicholson*	65
Offset Paper at Work *By William Bond Wheelwright*	66
Technical News and Literature *By Kenneth W. Martin*	67
In and About the Trade	69
New Equipment and Bulletins	79
Lithographic Abstracts	87
Where-to-Buy-It	94
Classified Advertisements	95
Advertisers' Index	97
Tale Ends	98

MODERN LITHOGRAPHY
Reg. U. S. Pat. Office

GRANT A. DORLAND, *President;* IRA P. MACNAIR, *Vice-President;* WAYNE E. DORLAND, *Secretary-Treasurer.* RICHARD ROLEY, *Editor.* Published monthly on the 15th by The Photo-Lithographer, Inc., Publication Office, 3201 Arch St., Philadelphia, Pa. Advertising and Editorial Office, 254 W. 31st St., New York, N. Y. ADVERTISING RATES: Advertising rates made known on application. Closing date for copy—20th of the month previous to date of issue. SUBSCRIPTION RATES: $3.00 per year in the United States, $4.00 per year in Canada. Single copies, 30 cents. Entered as second class matter at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

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SEPTEMBER 18-20

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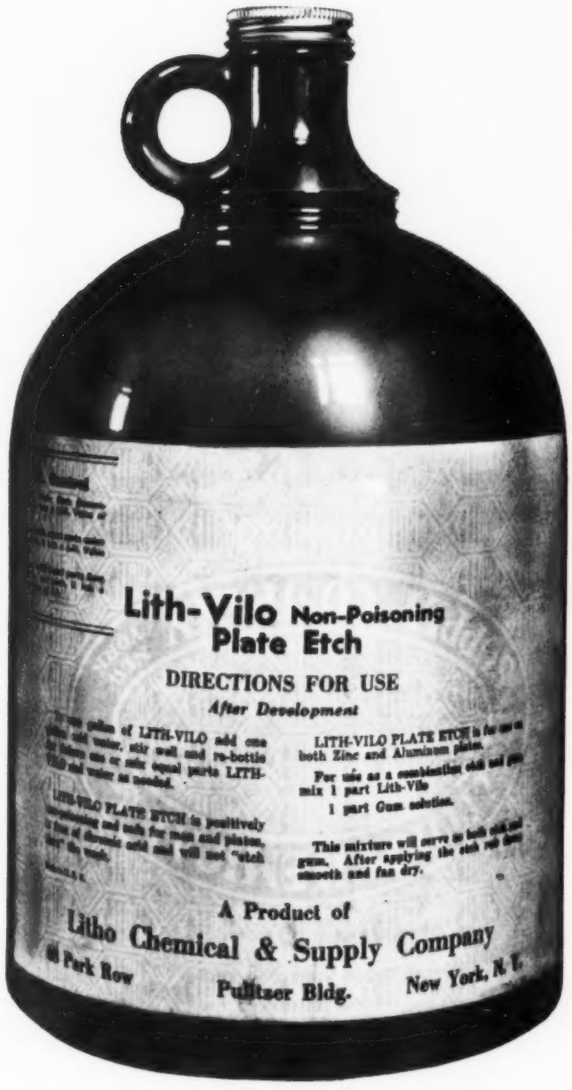
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Keeping in Touch

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LITHOGRAPHY AND DEFENSE

A Message to the Photo-Lithographers' Convention

Like many other industries, the Lithographic industry must face today the problem of shortages. This is one of the most vital topics which concerns the NAPL Convention. Materials required for the national defense program, in some cases, are also important for making lithographic and printing inks. In other instances, shipping shortages created by military diversions are making it difficult to obtain certain ink ingredients and other lithographic essentials.

Just how much more seriously shortages and priorities will affect lithography and the manufacture of lithographic inks can be only a matter of conjecture. But one thing is certain. Lithographers and suppliers alike are glad to make sacrifices which will speed the defense program. IPI is not stocking up on materials required for defense. To do this invites difficulties and defeats the purpose of the priority system. We suggest to customers that they, too, as a patriotic duty, do not build inventories which may impede the defense effort and hasten restrictions and rationing.

IPI for many years has based its business on fundamental research. Our laboratories are constantly at work to find substitutes for ink ingredients necessary to defense. We are doing our best to supply you with the products you need, and we intend to maintain our service to the fullest possible extent. Yet, even though our factories are working overtime—often on a 24 hour basis—delivery dates are bound to be affected, in some degree.

Once more, we suggest that you "keep in touch with IPI". And be assured that we are making every effort to discharge our duty to our country as well as to our customers.

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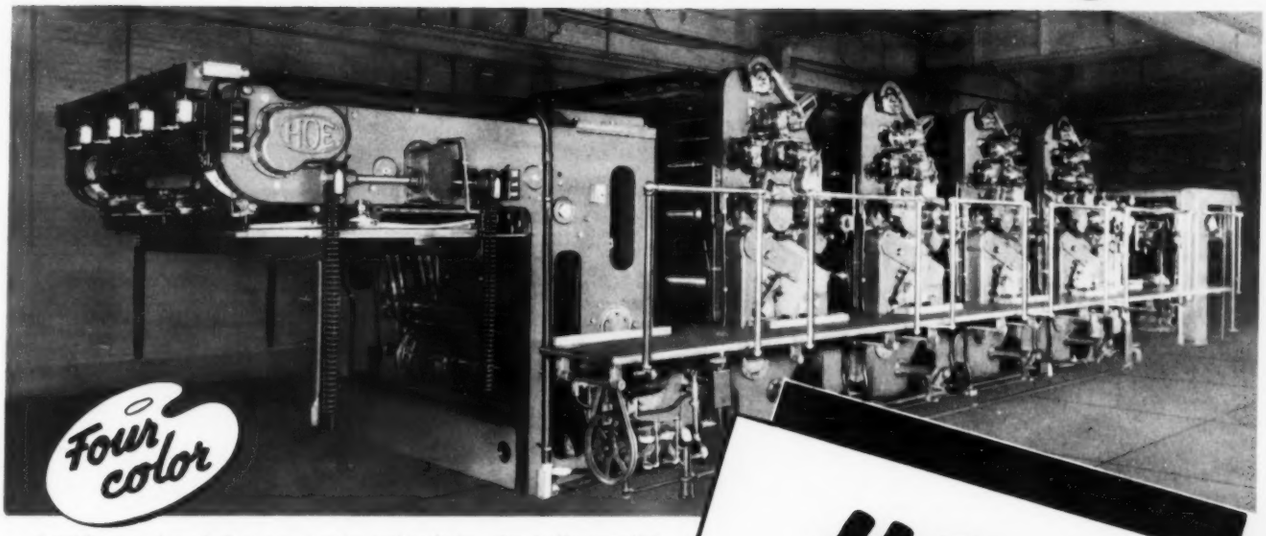

Special new web method of sheet feeding and exclusive, electrically-controlled automatic adjustment of plate cylinders assure accurate color register.

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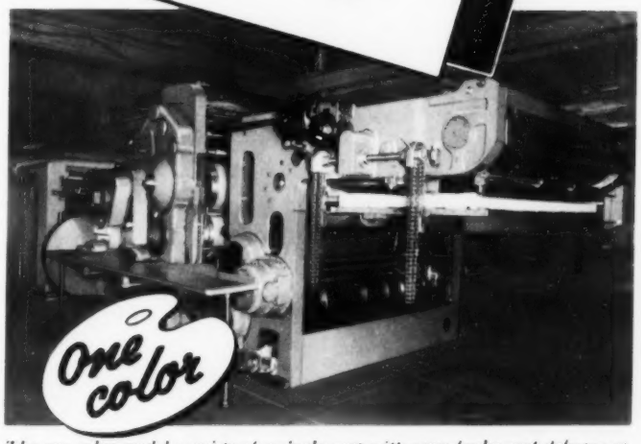
Because of its unit construction, the 50″ x 72″ Hoe Offset Press can be made available in models for lithographing one, two or three colors. A model for the smaller sheet size, 42″ x 58″, is now being developed.

An illustrated broadside actually produced on the new press is available. It contains more detailed information. Write for a copy.



The one-color model consists of a single unit with same feeder and delivery as the four-color press. Can be expanded to meet production needs.

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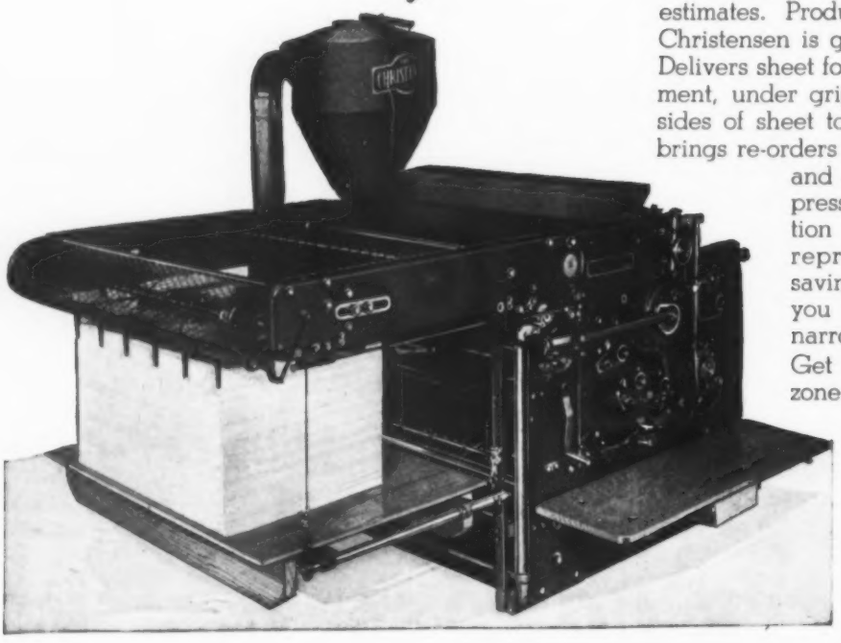

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SALUTES

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BOSTON CHICAGO CINCINNATI CLEVELAND FORT WORTH ST. LOUIS PHILADELPHIA SAN FRANCISCO LOS ANGELES TORONTO

GUNS VERSUS *Butter*

The National Association of Photo-Lithographers has dedicated its forthcoming Ninth Annual Convention, to be held at the Netherland-Plaza Hotel, Cincinnati, Ohio, September 18, 19 and 20, to the stupendous task of attempting to come to grips with probably the most vital issue ever faced by the lithographic industry—the present Unlimited National Defense Emergency and its possible ramifications.

The next six months will see heavier taxes, rising prices, further curtailment of civilian production, scarcity of materials, steadily mounting living costs, government controls of various kinds, including "standardization" of consumer goods in order to speed the national defense effort.

In this rapidly moving and confusing picture, what will be the effect on the lithographic industry in general and the individual lithographer in particular?

In facing the grim reality of guns versus butter, what are the problems the lithographer must meet—and solve?

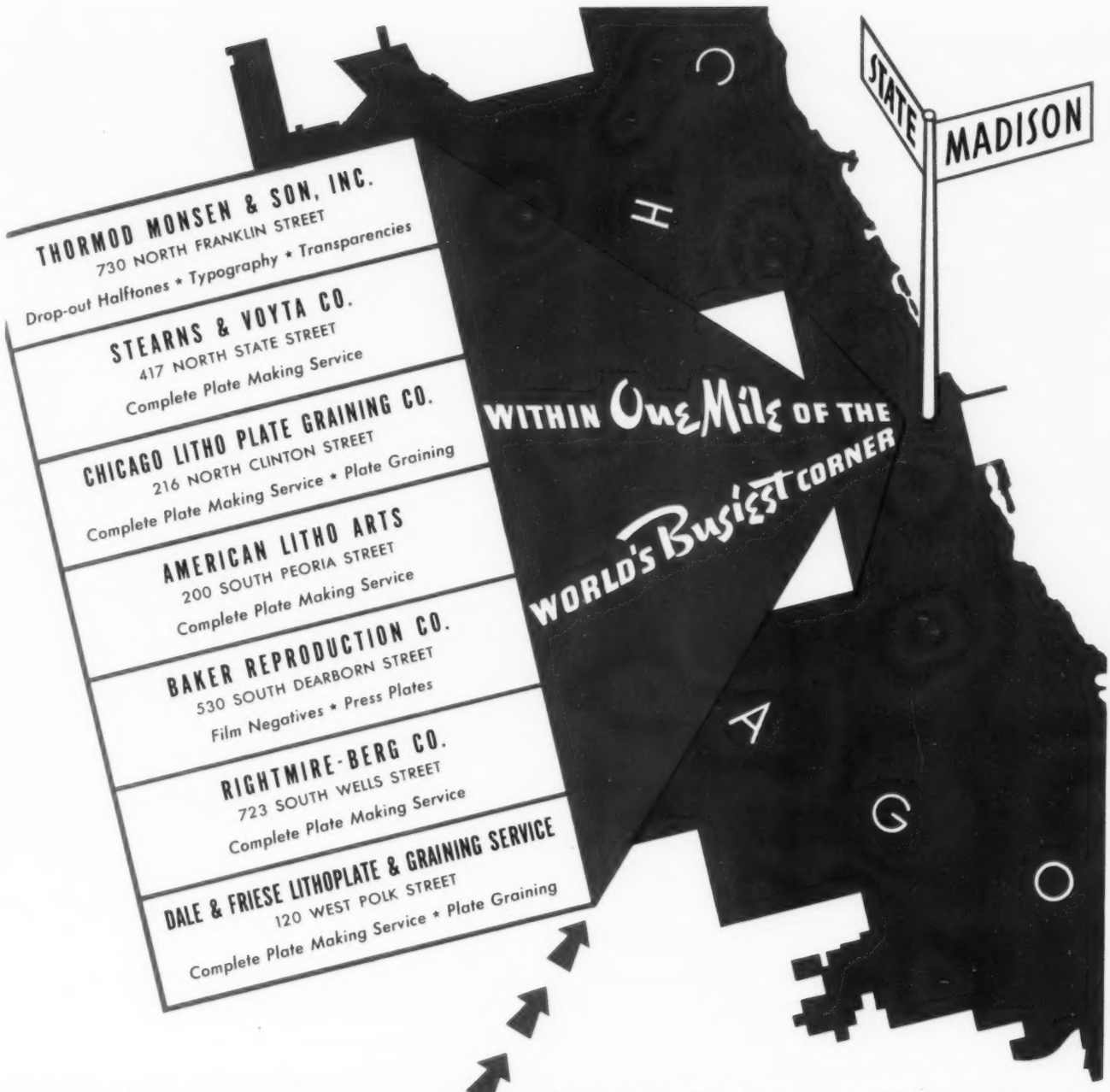
In the trying days ahead, how shall the lithographer chart his course?

These are the questions the NAPL has set itself the task of attempting to answer in so far as it is humanly possible. They are not easy questions. They will not be solved by any one person, or any one group of persons. They require the united, all-out effort of the entire lithographic industry. They require the concerted creative thinking and planning of lithographers everywhere if the future of our industry is to have direction.

Hence, the National Association of Photo-Lithographers invites lithographers everywhere, large or small, black and white and color alike, to attend this most important convention and participate by bringing their constructive thoughts and criticism to bear on the vital problems facing all of us.

You are invited to come to Cincinnati September 18, 19 and 20 and bring your problems with you, whether you are a member of the NAPL or not.

NATIONAL ASSOCIATION OF PHOTO-LITHOGRAPHERS



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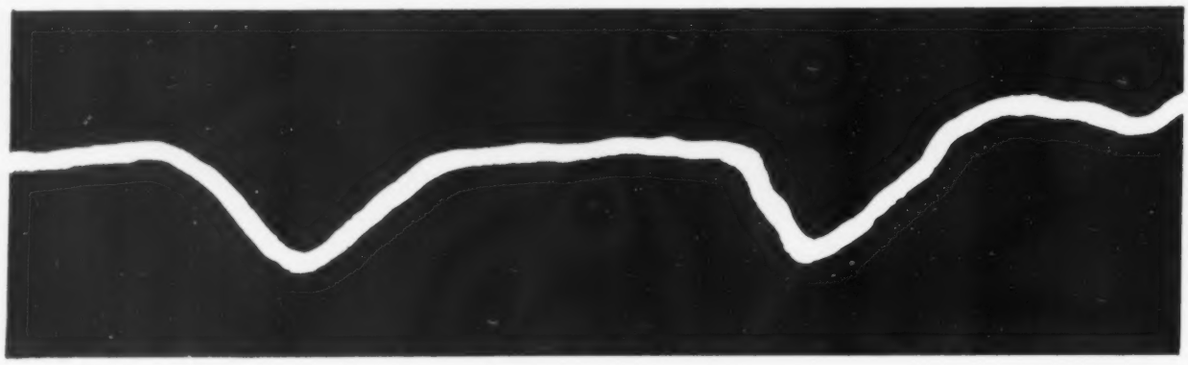

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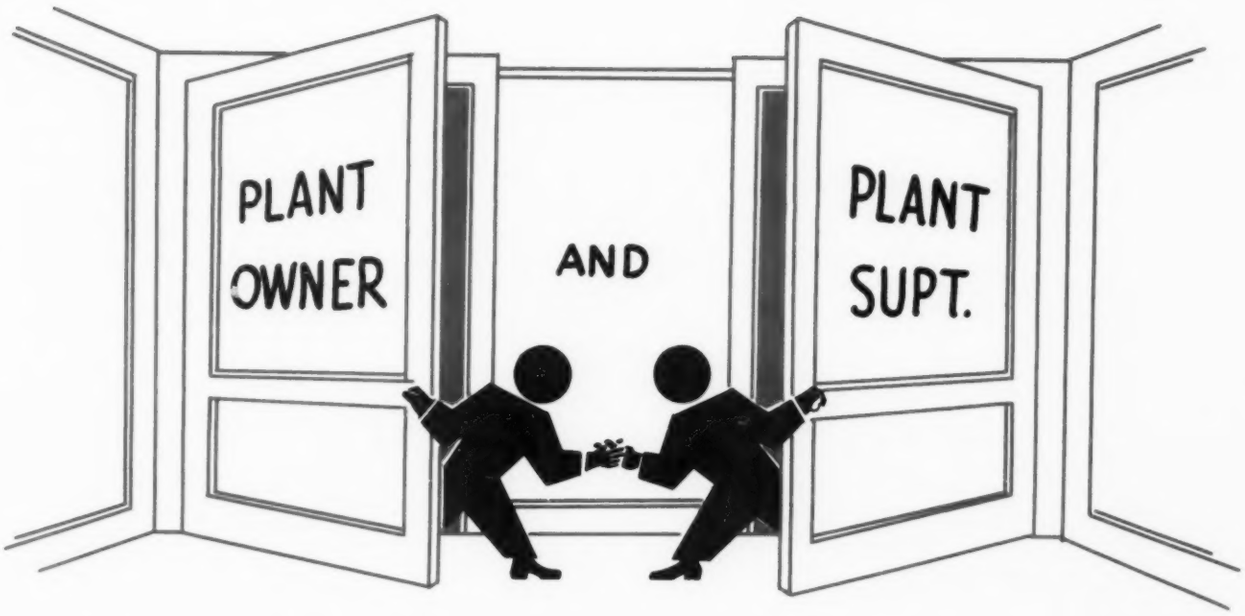

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San Francisco, Cal.

920 St. Sophie Lane
Montreal, Quebec

176 John Street
Toronto, Ontario

GENERAL PRINTING INK CORPORATION -- DIVISIONS: American Printing Ink Co., Eagle Printing Ink Co., Fuchs & Lang Mfg. Co., Geo. H. Morrill Co., Sigmund Ullman Co., Sun Chemical & Color Co. Chemical Color & Supply Co., Rotogravure, Export, General Printing Ink Corporation of Canada, Ltd.

OFFSET PRINTERS

YOU CAN'T BEAT THIS PAIR!

PACEMAKER OFFSET

Available from mill stock in white and five colors and in eight embossed patterns, as well as the regular machine finishes. Laid marks, deckle-edge and special colors available on order.

BROCKWAY COVER

Comes in nine pleasing finishes and eleven colors. Available in basis 20x26—50 and 65 lb. weights. In 20x26—23x35 and 26x40 sizes. Other sizes and weights on order.

George A. Whiting Paper Co.
PACEMAKER OFFSET BROCKWAY COVER

WRITE US ON YOUR BUSINESS LETTERHEAD FOR FULL INFORMATION AND SAMPLES.

GEORGE A. WHITING PAPER COMPANY — MENASHA, WISCONSIN

KNOW the pH

of your Fountain Solutions and Coating Mixtures, by using

TAYLOR Slide Comparators

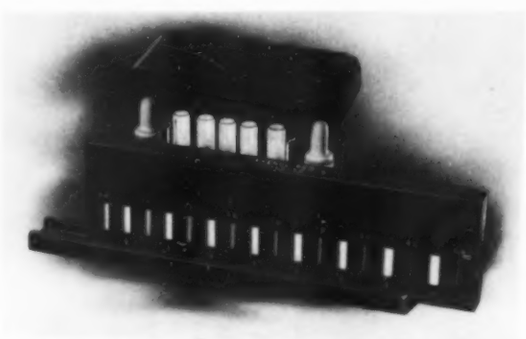
While controlling the acidity (pH) of fountain solutions and coating mixtures is only one factor in turning out a perfect job, it is an important one which may go far toward determining success or failure.

Those who have used pH control have found that different jobs require different pH values for best results. With a Taylor Slide Comparator the best value for a specific job can be determined and this pH can be duplicated at any time instead of guessing that conditions are the same.

If you *know* that the pH is correct, locating other sources of trouble is greatly simplified.

Single Comparators $15.00. Extra Slides $7.50 each. A Comparator with one extra slide fills the requirements of most lithographers.

See our Comparators at the booths of our dealers at the Photo Lithographers Convention.



TAYLOR pH Slide Comparator
Simple—Rapid—Accurate

A pH determination consists of 3 simple steps: (1) Fill 3 of the test tubes to the mark (5cc) with the sample to be tested; (2) add 0.5 cc of indicator solution to the middle tube and mix thoroughly; (3) move the slide in front of the sample until a color match is obtained and read the pH from the values on the slide.

All Taylor color standards carry an unlimited guarantee against fading.

W. A. TAYLOR & CO.

7300 YORK ROAD — BALTIMORE, MD.

GREETINGS *to* N·A·P·L *at Cincinnati 1941 from*

The House that Service Built

Wherever lithography is produced, the House that S. and V. built is delivering the goods that make the presses roll. S. and V. litho inks—S. and V. plate making chemicals, and a wide variety of litho supplies pour in a never-ending parade from the shipping platforms of the House that S. and V. built—platforms not only at the home plant but throughout the country at its many branches conveniently located to serve you from coast to coast.

The demand on our production facilities is an indication of the confidence placed in our ability to produce quality products and to deliver them when and where they are needed. We are thankful for the support which has made this growth possible.

Sinclair and Valentine Co.

MAIN OFFICE AND FACTORY: 611 WEST 129th STREET, NEW YORK, N. Y.

Albany	Boston	Cleveland	Detroit	Jacksonville	Los Angeles	Nashville	Philadelphia
Baltimore	Charlotte	Dallas	Havana	Kansas City	Manila	New Haven	San Francisco
Birmingham	Chicago	Dayton			Miami	New Orleans	Seattle

Lithographed with: S. & V. EXCELLO BLACK No. 115, S. & V. SUPER SKY BLUE No. 235

Sinclair and Valentine Co.
ALBANY
BOSTON
CHICAGO
DALLAS
KANSAS CITY
DETROIT
CLEVELAND
NEW ORLEANS
PHILADELPHIA
MONTREAL
BIRMINGHAM
NEW HAVEN
...at your Service from Coast to Coast
BALTIMORE
TORONTO
DAYTON
CHARLOTTE
NASHVILLE
WINNIPEG
HAMILTON

Greeting from Becketts

To the lithographers of the nation we join with our hosts of neighboring Cincinnati in extending welcome to the convention of the National Association of Photo-Lithographers.

The Beckett mill is the oldest paper making institution west of the Allegheny mountains. For 93 years we have been making good papers in the heart of Hamilton, just 22 miles from convention headquarters.

Visitors to the convention and lithographers everywhere will be welcome to our establishment, where we manufacture what we believe to be the most complete line of high-grade offset papers to be found in the world.

Beckett Offset is the choice of many of America's most eminent advertisers, and together with Beckett Opaque is a standard material in leading lithographic institutions.

We manufacture, in addition, Buckeye Cover, Beckett Cover, Ohio Cover, Buckeye Text, Beckett Text, Tweed Text and many greetings and specialties, all adapted to lithography as well as letterpress.

The Beckett Paper Company

Makers of Good Paper in Hamilton, Ohio, Since 1848

6 ALUMINUM, DEFENSE, AND YOU

ALCOA

DEFENSE ISN'T JUST AIRPLANES!

They are first in the hearts of the people and first in the headlines. But Defense is also ten thousand other military necessities, clear across the board, and Alcoa Aluminum goes all the way across with it.

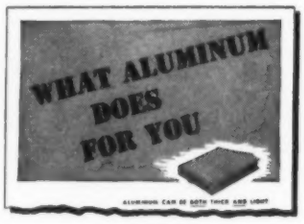
Sheets and shapes and wire; castings and extrusions and forgings, nuts and bolts and tubing and rivets; all these and more forms of Alcoa Aluminum are being chewed up by scores of industries in military applications as varied as the peace-time applications of aluminum used to be.

AND FOR THE SAME REASONS.

Before Defense, one of our advertisements to civilians started off with the headline reproduced at the right. A whole volume of economic and engineering common sense was distilled into those six words. Now, Defense is taking all the aluminum we can make because that headline is a fact.

THIS IS WHAT we were saying, *Before Defense,* to prospective buyers of Diesel engines. A great new industry was feeling its way. Properly, it was weighing the advantages of using Alcoa Aluminum. But Defense had to have those advantages right away, and civilian users of Diesels now have to wait for their aluminum.

THE FIVE WORDS in the headline of this advertisement (B.D.) at the right introduced straight talk about the fundamentals of weight saving with Alcoa Aluminum: vital reasons we thought (and think) that everybody should know. Defense hasn't time to explain that these are precisely its reasons for using aluminum; it just takes all it can get.

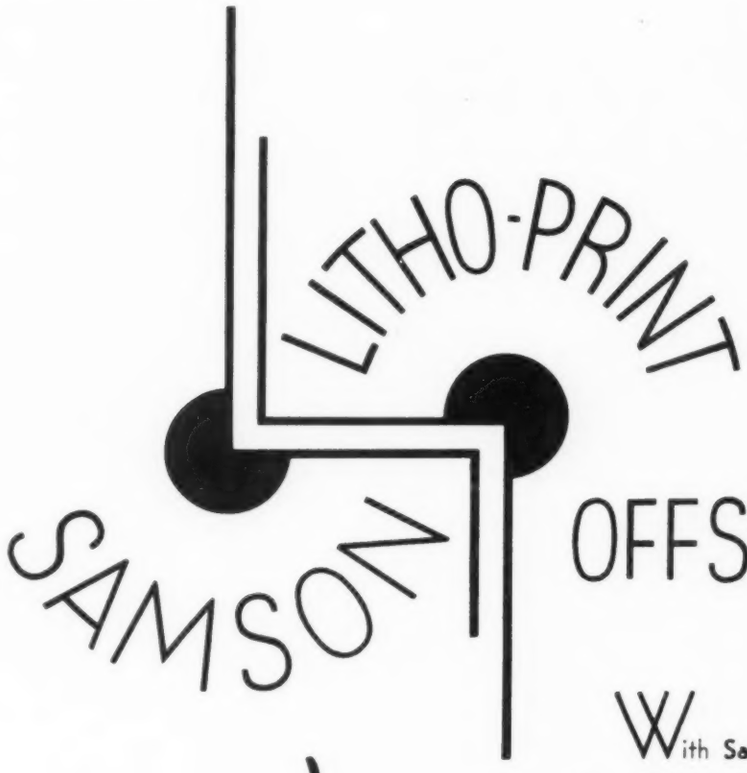


LAST MONTH DEFENSE TOOK over 50 million pounds of Alcoa Aluminum, for the simple and clear reason that certain advantages of aluminum are fundamental.

When the emergency is over, Alcoa is going to be talking the same simple language, selling the same fundamentals. And it will have still better techniques and new uses of Alloys of Alcoa Aluminum for you to put to work.

RIGHT NOW, we are in high gear for defense; our foot is on the floor board; we intend to keep it there for the duration.

ALUMINUM COMPANY OF AMERICA



OFFSET ROLLERS

With **Samson** (Vulcanized Oil) and **Litho-Print** (Rubber) Offset Rollers, **Bingham** co-operates with American printers in producing offset printing of outstanding quality at minimum cost.

The new, improved **Samson,** rapidly becoming famous among fine-quality offset printers, has as its most noteworthy feature the smoothest, yet toughest surface available in Vulcanized Oil rollers; its performance has set new standards in the offset world.

Litho-Print, Bingham's modern rubber roller for offset work, supreme in the field, combines perfection in ink distribution with the durability and long life inherent in rubber materials.

And — the sixteen modern **Bingham** plants, strategically located, insure maximum convenience and economy for our customers. Our nearest representative, backed by **Bingham's** 94 years of roller-making experience, will be glad to assist you with your offset roller problems.

CHICAGO

ATLANTA
CLEVELAND
DALLAS
DES MOINES
DETROIT
HOUSTON
INDIANAPOLIS
KALAMAZOO
KANSAS CITY
MINNEAPOLIS
NASHVILLE
OKLAHOMA CITY
PITTSBURGH
ST. LOUIS
SPRINGFIELD, OHIO

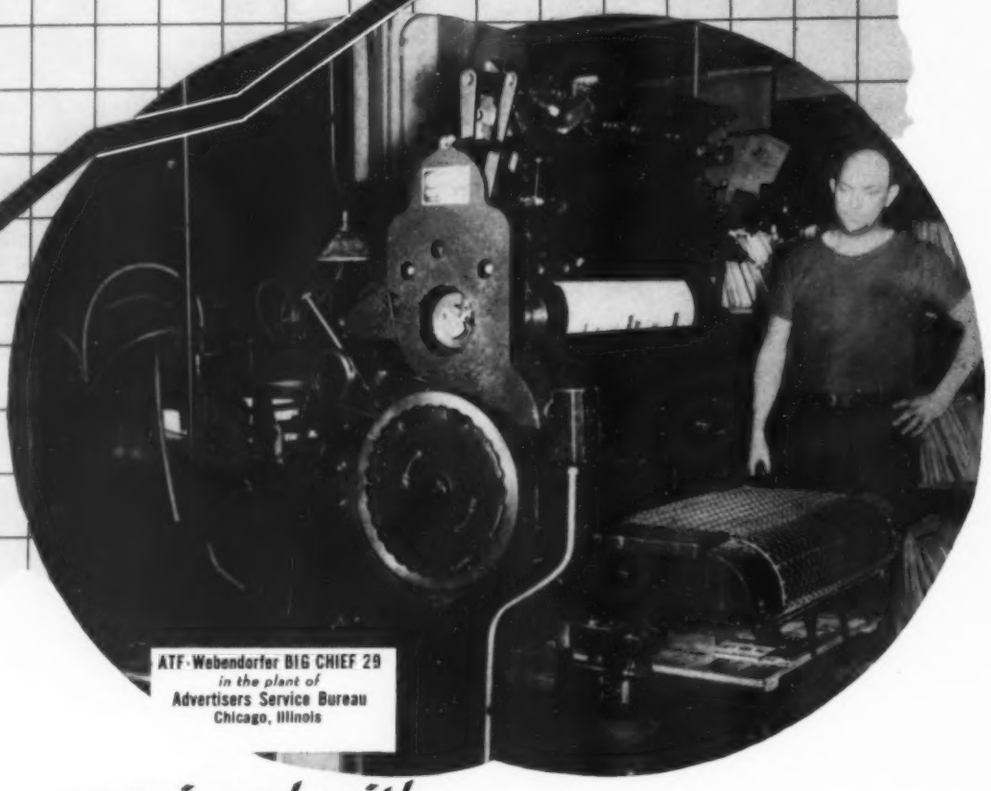
ALSO DISTRIBUTED BY

CALIFORNIA INK CO. . . . San Francisco
DRY CLIMATE INK & ROLLER CO. . Denver
McKINLEY LITHO SUPPLY CO. . Cincinnati
HARRIGAN ROLLER CO. . . . . Baltimore
DORSEY PRINTERS SUPPLY CO. . . . Memphis
GODFREY ROLLER CO. . . . . Philadelphia

SAM'L BINGHAM'S SON MFG. CO.

UP... UP...

goes the Business Curve in this plant



...equipped with ATF-Webendorfer Offset Presses

In 1931, when most printers were pulling in their horns, this progressive printer added ATF-Webendorfer "SIMPLIFIED OFFSET" to his letterpress equipment. Since then he has watched his business curve go up... up... up. Included in his complete modern plant today are the Big Chief 29 pictured, a Little Chief 20, an ATF-Webendorfer web fed two-color offset press, ATF *precision* darkroom camera and complete plate making equipment... everything he needs to do finest quality offset printing. • More and more printers every day are deciding on ATF-Webendorfer "Simplified Offset" to *complement* their letterpress equipment. Why not you? Your ATF Salesman has the complete details ... or ask at your nearest ATF Branch Office or Dealer.

ATF

AMERICAN TYPE FOUNDERS

200 ELMORA AVENUE, ELIZABETH, NEW JERSEY • *BRANCHES AND DEALERS IN PRINCIPAL CITIES*

Into every negative enters

COPY

CRAFTSMANSHIP

CHEMICALS

TO PRODUCE a finished negative of the better type, you need better copy, better craftsmanship and better chemicals. Merck chemicals for the graphic arts are *better* chemicals—the kind that go a long way toward producing *better* results.

MERCK

FINE CHEMICALS FOR THE PROFESSIONS AND INDUSTRY SINCE

* 1818 *

MERCK & CO. Inc. *Manufacturing Chemists* **RAHWAY, N. J.**

New York: 161 Sixth Ave., Philadelphia: 1649 N. Broad St., St. Louis: 4528 S. B'way. *In Canada:* Merck & Co. Ltd., Montreal and Toronto

GOOD PULP INSIDE—

Makes Peaches and Paper Good

Pulp is the body of any paper. It determines strength and finish, wear and folding qualities. So years ago Champion invented and perfected the process of making pulp from abundant pine in the South, where today they operate two huge pulp mills. They also developed scientific, rigid production control and finishing practices, for finer quality in every grade. You will find Champion Wedgwood Offset a peach of a paper for your next job, whether you choose coated or uncoated, wove or special finishes, white or colors.

THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelope and Tablet Writing . . . Over 1,500,000 Pounds a Day

DISTRICT SALES OFFICES

NEW YORK · CHICAGO · PHILADELPHIA · CLEVELAND · BOSTON · ST. LOUIS · CINCINNATI · ATLANTA

EDITORIALS

ON the page following there is an open letter to all lithographers by Floyd Maxwell, secretary of the Lithographers National Association. We hope all lithographers read it.

We asked Floyd Maxwell to write this letter because we think it is high time for the lithographic industry as a unit to wake up to what is going on. We think Floyd Maxwell is the man to tell the lithographic industry some highly pertinent facts. Since this country began building for defense, since OPM and OPACS were created, Floyd Maxwell has been closer to the Washington picture than perhaps anyone else in our industry. That is not to say that any other trade group or lithographers' association has not also been on the job in behalf of its members, for they all have been. It simply means that the LNA has the facilities and the means to analyze and study in greater detail some of the decisions that have been made in Washington, and to weigh their significance in regard to lithography.

Therefore, feeling that the future of the lithographic industry is far greater than any one trade group, or trade association, and that this is a time to think in terms of the *entire* lithographic industry, we have asked Floyd Maxwell to compose this open letter, not as the secretary of a trade association, but as an articulate lithographic observer for all lithographers.

We do not believe that we are assuming too much for Floyd Maxwell in asking this. We talked to him just the other day: "I never come back from Washington these days," he told us, "without feeling keenly the helplessness of the lithographic industry in this emergency situation. They just don't realize down at Washington the place the printing and lithographic industries hold in our economy, or if they do, they simply do not care. Until they do, the lithographic industry's needs will not be considered fairly. Perhaps the industry needs a highly trained public relations man or a professional publicist to state its case, I don't know. I do know that the lithographic industry is faced with a task requiring the cooperative effort of all groups within the industry. What is needed is a central organization, a rallying point around which we can organize for action. What form of action this cooperative effort might undertake is another phase of the problem. The fact remains, something should be done and soon."

Again, we urge lithographers to read Floyd Maxwell's open letter carefully. We are convinced of the necessity for the entire lithographic industry to stand and act together—*now*!

For example, as an indication of the way the wind is blowing, as we went to press it was learned that a committee for drugs, packaged chemicals, soaps, etc., had been set up by Norbert A. McKenna, of the Office of Production Management, and charged by him to figure on ways and means of reducing paper needs for these products 25 per cent. The saving, according to our information, is to be made through use of lighter weight paper, elimination of extra wrapping, re-use of cartons and containers, *and absolute elimination of all non-utilitarian packaging materials—such as stuffers, direction booklets, premiums, souvenirs and displays.* The complete details of how the 25 per cent saving will be effected may be released in the form of an order about September 15; or, which would make it much more difficult from the lithographic viewpoint, he may play cagey and depend on the voluntary (sic) cooperation of the industries affected. Of course, there is no need to dwell on the significance of this move to the lithographic industry. The drug, packaged chemical and soap industries are major consumers of lithography—in fact, though we have not the figures at hand, taken together, they might well represent *the* major consumers—and mostly in the form of displays, which is one of the lithographic industry's chief products. Elimination of displays by these industries could conceivably tear the bottom right out of the lithographic industry. And bear in mind that this is only one of several similar consumer industry moves under consideration. The foods, tobacco, cosmetics, liquor, toilet goods and soft drinks industries —to name a few—will also be given an opportunity to find ways and means of reducing their paper requirements.

It is an open secret that Norbert McKenna, while a facile marshaller of figures, is too wet behind the ears in a business sense to grasp the complexities of the advertising-publishing-marketing business and that he will have to depend on someone else for advice. What's wrong with the lithographic industry, as an organized, integrated unit, following the example of some of the other professional ear benders—the Periodical Publishers Association, the ANPA, the ANA and others—and proferring Mr. McKenna some well-meaning advice of its own? If it doesn't, you can be sure of one thing—it'll be left out in the cold.

Lithographers
NATIONAL ASSOCIATION
INCORPORATED

ENGAGED FOR MORE THAN FIFTY YEARS IN PROMOTING THE BEST INTERESTS OF THE LITHOGRAPHIC INDUSTRY.

ESTABLISHED 1888
INCORPORATED 1906

420 LEXINGTON AVENUE
NEW YORK, N. Y.
TELEPHONE ASHLAND 4-1315

September 1, 1941

An Open Letter to Lithographers:

Today - Labor Day - marks the beginning of the third year of the war.

For Lithographers, it may well mark the beginning of the month - September 1941 - in which restrictive regulations, under the defense program, will be promulgated to drastically curtail your printing volume - particularly if that volume is general advertising material.

Zinc, aluminum, bindery wire, inks, colors, acetic acid, alcohol, gum arabic, albumin and other chemicals and supplies have presented increasing problems to lithographers but paper now threatens to become the critical factor - critical not only because of a threatened shortage of pulp and because of a lack of chlorine for pulp processing and as a bleaching agent, but more dangerously critical because of the indicated form of the proposed governmental restriction.

If we are to have a defense unemployment crisis in certain civilian industries; if thousands of small and medium sized businesses will be forced to shut down because they are not in the stream of defense production and their plants cannot be easily converted to defense production; if important classes of consumer goods which require for their manufacture strategic defense raw materials are to be sharply curtailed through rigid priorities, time-payment-credit controls and inability to secure general maintenance and supply items; if certain advertising media are to be arbitrarily curtailed; if these facts are true then it ought to be clear to lithographers that this is the kind of a crisis facing our industry which calls for the fullest possible measure of cooperation among ourselves.

As matters now stand, we are a part - not a too large or a too well-unified part - of the Printing and Publishing Industry which OPM has set up as one of three divisions of the Pulp and Paper, Converting and Printing and Publishing Industry Section. The paper manufacturers, the newspaper publishers and the magazine publishers are all represented by well-organized, well-heeled associations fully prepared and fully able to speak for the interests they represent. Protection of vital lithographic interests requires the same concerted action.

Lithography is a versatile and an economical method of reproduction. It is not surprising, therefore, that the product of our pressrooms is a varied one. Some lithographers are highly specialized; others produce a wide variety of lithographed material. While some of our important products are sold in highly specialized markets this is not the case with the broad run of material. Basically, therefore, every lithographer has an interest in the fair protection of the entire lithographic market since elimination of any important section of the market today would bring into other sections of the market tomorrow presses which could be turned with ease to competition in those other sections of the market. Divided interest - stemming from this very versatility - is one of the chief dangers we face.

There is an important industry job to be done now. Are you, in your own self interest, cooperating?

Very truly yours,

W. Floyd Maxwell

W. Floyd Maxwell
Secretary

HILLTOPICS

NEWS OF BRADLEY STUDENTS, FACULTY, AND ALUMNI

VOLUME 1, NO. 2 APRIL, 1941

"SOURCES OF KNOWLEDGE"
ONE OF SIX MURALS IN BRADLEY CHAPEL

LITHOGRAPHED BY PEORIA BLUE PRINT AND PHOTOPRESS COMPANY, PEORIA, ILLINOIS

PHOTOGRAPHED WITH ONE SHOT COLOR CAMERA FROM WALL OF BRADLEY POLYTECHNIC INSTITUTE CHAPEL. MURAL WAS 9 FEET WIDE AND 12 FEET HIGH. HALFTONES MADE DIRECT FROM SEPARATION POSITIVES, WITHOUT RETOUCHING OR DOT ETCHING. RUN IN 3 COLORS AND VARNISHED. ALBUMEN PLATES.

LITHOGRAPHED BY PEORIA BLUE PRINT AND PHOTOPRESS COMPANY, PEORIA, ILLINOIS

DIVISION PAGE FROM A HIGH SCHOOL ANNUAL. MODEL PHOTOGRAPHED WITH ONE SHOT COLOR CAMERA AND HALFTONES MADE DIRECT FROM SEPARATION POSITIVES, WITHOUT RETOUCHING OR DOT ETCHING. 3 COLOR AND VARNISH. ALBUMEN PLATES.

The famous Cherokee Indians whose home is near
Great Smoky Mountains National Park.

This remarkably faithful reproduction of a brilliant subject is obtained by four color lithography using Higloss Ink.

Photograph furnished by the North Carolina Department of Conservation and Development . . . . taken from life — the famous Cherokee Indians whose home is near Great Smoky Mountains National Park.

Lithographed by
WINSTON PRINTING COMPANY
Winston-Salem, North Carolina

PAUL HEIDEKE
. . . Washington Planograph Co., who presided at the Production Clinics.

A. S. KOCH
. . . Kelley-Crescent Co., who talked on "Handling Orders."

CAPT. L. B. MONTFORT
. . . Legal Counsel for the NAPL, who talked on "Wage and Hour Law and Regulations."

N.A.P.L. MEETS AT CINCINNATI

Ninth Annual Convention Meets on schedule. Merle S. Schaff sounds keynote at record opening session.

THE Ninth Annual Convention of the National Association of Photo-Lithographers opened at the Netherland-Plaza Hotel, in Cincinnati, on Thursday, September 18th as scheduled. Merle S. Schaff, president, opened the meeting with the keynote address in which he told the lithographers that their industry faced a critical period in the months immediately ahead. Mr. Schaff pointed out that in the effort of official Washington to determine how much butter we can have while we are making guns, all civilian industry was under fire, but that the advertising, publishing and printing business would be particularly affected. He pointed out that the attitude of official Washington, at least as exemplified in statements by Leon Henderson of OPACS and Assistant Attorney General Thurman Arnold, was that advertising is a non-essential in the cost of distribution.

"Naturally," continued Mr. Schaff, "if consumer advertising media are affected, the entire lithographic industry will feel the cut also." Mr. Schaff told the delegates that during the three-day convention they would undoubtedly hear many things from the speakers' platform which would not be pleasant. The outlook on metals, equipment and some chemicals, he declared, is decidedly unfavorable. "However," he went on to say, "we are not met here to spin out fanciful pictures about the future, but to face the truth so that in the coming months our industry can be forewarned and forearmed."

Mr. Schaff was followed by Messrs. Rex G. Howard, Peoria Blue Print and Photopress Co., and A. S. Koch, Keller-Crescent Co., who spoke on the paper work necessary in handling an order to advantage. Two speakers who have made extensive studies of means to expedite orders from salesman to finished job, they pointed out that anything that could be done to eliminate paper work at this time, with lithographic presses scheduled way ahead, would mean a saving of dollars and cents to the lithographer.

"The important thing that we have learned from our experience," commented one of the speakers, "is the necessity for standardizing on a procedure for getting a job into production as speedily as possible. If the route each job takes can be thought of as a straight line from salesman to delivery platform, then some of the unnecessary corners and waste which we find in many pressrooms today could be eliminated."

. . . HENRY BRUNINGS,
of Gerlach-Barklow Co.

. . . A. P. REYNOLDS,
of Spaulding Moss Co.

. . . GUS CARLSON, of
Harold M. Pitman Co.

PARTICIPATING IN THE N.A.P.L. PRODUCTION CLINIC

Captain L. B. Montfort, Legal Counsel for the National Association of Photo-Lithographers, was the next speaker during the Thursday morning session. Capt. Montfort outlined some of the cases which have come before the Labor Relations Board during the past year and described in detail, as examples of precedent, a few of the interpretations which had been applied to the Wage and Hour Law. Following a brief discussion of how some of these interpretations may affect the lithographic industry over the course of the next few months, Capt. Montfort devoted the latter half of his talk to questions and answers from the floor.

Following adjournment of the Thursday morning session for luncheon, A. J. Fay, sales manager, National Process Co., spoke on "Training and Directing a Sales Force." Mr. Fay told the convention that training a salesman was somewhat like leading a horse to water. "Just as you can lead a horse to water, but can't make him drink," said Mr. Fay, "so you can place the average embryo salesman in front of a prospective order and he will fail to realize it."

"This proves," Mr. Fay continued, "that there is no such thing as a natural-born salesman. A salesman, just as any other professional man, must be trained in his vocation. Having a nose for sales is like having a nose for news. It would be unthinkable," said Mr. Fay, "for a large metropolitan newspaper to hire a man and expect him to become over-

AMONG THE N.A.P.L. DIRECTORS ON HAND

. . . JACK STEIN, of
Stein Printing Co.

. . . PENN R. WATSON, of
William J. Keller, Inc.

. . . J. B. SMITH, JR., of
Photo Reproduction Corp.

night a trained and experienced reporter. It is just as absurd," said Mr. Fay, "to think that you can make a lithographic salesman overnight. They need to be trained just as does the reporter."

John McMaster and Alexander Murray, both of Eastman Kodak Co., provided the second feature of the Thursday afternoon program. Two new Eastman developments—the Kodagraph Contact Screen Process and Kodak Fluorescence Process were described and demonstrated by Messrs. McMaster and Murray. Both of these developments were anticipated with a great deal of interest by the photo-lithographers. In recent months there has been much talk in the trade of the revolutionary note which the developments would introduce. The delegates had their every anticipation realized. We hope to carry a complete account of these two Eastman developments in our October convention reporting number.

The third and last feature of the Thursday afternoon program was a discussion of "Advertising for New Business," by Harry E. Brinkman, Foto-Lith, Inc., and Allen H. Frost, Copifyer Lithograph Corp. Taking the tack, which is often heard regarding this industry, that lithographers are not unlike the cobbler whose children run barefoot, the two speakers pointed out how lamentably unprogressive the average lithographer is in employing advertising to promote his own business. Since both Copifyer Corp. and Foto-Lith, Inc., have used advertising and sales promotion literature extensively since their inception, and since both of these concerns owe in large measure their present established position to advertising, the delegates heard a talk based on actual figures and experience. Both talkers brought to the meeting many examples of advertising literature which they had used in promoting their own business. This concluded the first day's meeting.

Elsewhere in this first day's account is a complete convention program. It was discussed fairly much in detail in our last month's issue. Look for a complete report of the convention, with many of the addresses carried in full, in our October convention report number.

N.A.P.L. CONVENTION PROGRAM

THURSDAY

September 18

Address of Welcome

MERLE S. SCHAFF, President

•

The Detail and Paper-Work Necessary in Handling an Order to Advantage

REX G. HOWARD
Peoria Blue Print & Photopress Co.

A. S. KOCH
Kelley-Crescent Co.

•

Wage and Hour Laws and Regulations

CAPTAIN L. B. MONTFORT
Legal Counsel

LUNCHEON

Training and Directing a Sales Force

A. J. FAY, Sales Manager
National Process Co.

•

Two New Eastman Developments—
Kodagraph Contact Screen Process and Kodak Fluorescence Process

JOHN MCMASTER

ALEXANDER MURRAY
Eastman Kodak Co.

•

Advertising for New Business

Participants:

HARRY S. BRINKMAN
Foto-Lith, Inc.

ALLEN H. FROST
Copifyer Lithograph Corp.

FRIDAY

September 19

Suggestions for Setting Up Shop Rules
A. G. MCCORMICK, JR.
The McCormick-Armstrong Co.

Supplying the Lithographic Industry Today and Tomorrow from the Viewpoint of Availability, Delivery and Cost

Participants:

ALUMINUM—Aluminum Company of America

BLANKETS AND ROLLERS—The Dayton Rubber Mfg. Co., Godfrey Roller Co., Rapid Roller Co.

CHEMICALS—Mallinckrodt Chemical Works, Merck & Co.

FILM—Agfa Ansco, Eastman Kodak Co., Hammer Dry Plate and Film Co.

INK—Fuchs & Lang Mfg. Co., Division of General Printing Ink Corp., International Printing Ink, Division of Interchemical Corp., Sinclair & Valentine Co.

PAPER—The Champion Paper and Fibre Co.

PRESSES—Harris - Seybold - Potter Co., Rutherford Machinery Co., Division General Printing Ink Corp., Vandercook & Sons

ZINC—Illinois Zinc Co.

LUNCHEON

Estimating and Costing in Today's Market Control Equipment from Management's Viewpoint

ALFRED ROSSOTTI
Rossotti Lithograph Co.

Pressroom Problems

JOSEPH MACHELL
Stecher-Traung Lithograph Co.

ANNUAL BANQUET

SATURDAY

September 20

Production Clinic

Participants:

TED BELITZ
American Colortype Corp.

HENRY BRUNING
The Gerlach-Barklow Co.

FRED BURTANGER
Reynolds & Reynolds

GUS CARLSON
Harold M. Pitman Co.

SUMMERFIELD ENEY
Champion Paper & Fibre Co.

HARVEY GLOVER
Sweeney Lithograph Co.

JOHN MCMASTER
Eastman Kodak Co.

ROBERT REED
Lithographic Technical Foundation

A. P. REYNOLDS
Spaulding-Moss Co.

ALFRED ROSSOTTI
Rossotti Lithograph Co.

LUNCHEON

The Human Side of Lithography

VERNE MITCHELL
Harris-Seybold-Potter Co.

•

Production Clinic

(Morning Sessions Continued)

THE LITHOGRAPHIC TECHNICAL FOUNDATION

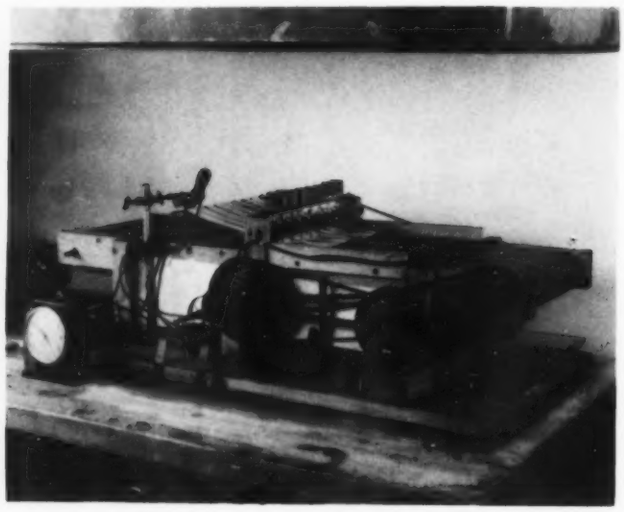
Among the places of interest which the delegates to the National Association of Photo-Lithographers Convention will visit during their 3-day stay in Cincinnati will be the Research Laboratory of the Lithographic Technical Foundation. Herewith is a resume of the Foundation's current research and educational activities, its functioning in the present national emergency.

MOST lithographers are familiar with the origin and activities of the Lithographic Technical Foundation. For those who are not, it is sufficient to say that the Foundation was organized seventeen years ago; that it has a research laboratory and an educational department; that to date it has issued 23 research and technical bulletins dealing with production methods and their control, and 7 educational publications; that its benefits are available to the entire lithographic industry and are not limited to members or subscribers alone; that its every effort is bent toward the technical advancement of lithography.

Foundation members and subscribers are those who have contributed financial backing without which no enterprise, research or otherwise, can prosper. At present there are approximately 600, half being lithographers and the remainder members of the allied industries, namely, ink, paper, blanket, machinery, and miscellaneous supplies. Under the conditions, the motive behind membership or becoming a subscriber can only be a desire to advance the lithographic industry as a whole, since the benefits of the Foundation's work are available to members and subscribers and

Experiments in process photography are conducted with practical camera equipment in the Foundation's Research Laboratory.

A specially-designed automatic drying tester is used to determine the drying rates of lithographic inks.



non-members and non-subscribers alike. Members and subscribers have long since realized that the competitive position of lithography in the graphic arts depends upon the ability of the average shop to turn out high-quality work, and this is far more important than any possible competitive advantage resulting from technical superiority to an individual member or subscriber.

The Foundation is governed by a board of directors together with the usual staff of officers. Standing committees supervise its educational and research activities, the members of these committees being selected for outstanding experience and judgment. The Educational and Research Directors and their staffs complete the Foundation's personnel.

The Foundation's research laboratory is located at the University of Cincinnati, where it has been ever since its inception in 1925. Its research program is governed by the Research Committee and is formulated according to a definite policy recommended by the late Dean Herman Schneider, who fathered the University's Institute of Scientific Research. This policy is to limit the laboratory's work to fundamental research rather than to conduct service work for members and subscribers, even though service work might appear to provide more immediate benefits. Experience with cooperative research in other industries has invariably taught that if service work is permitted and is successful the entire time of the staff is quickly monopolized by it and no fundamental research is carried on. Experience has also taught that fundamental research, or research on the basic problems of an industry, is far more effective than service-to-members research in advancing the technical knowledge and practices of an industry.

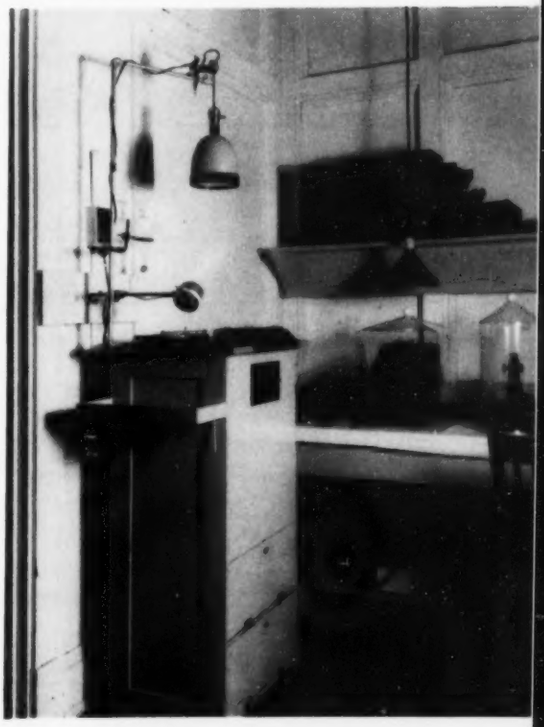
During the sixteen years of its existence the Research Department has continuously studied the chemistry and physics underlying the processes of plate-making and offset lithographic printing which are the backbone of modern lithography. Bulletins have been published covering the research on etching of plates, the production and use of albumin plates, and the preparation of deep-etched plates. At the same time researches were conducted on the various associated materials and processes. Extensive studies have been made on paper to determine (1) how better lithographic papers can be made and (2) how the lithographer can best handle paper to avoid atmospheric damage and consequent misregister. In 1930 a cooperative arrangement was made with the National Bureau of Standards for the studies on lithographic paper. This arrangement, which is still in effect, makes available the equipment and experience of that institution to the lithographic industry. To date eight bulletins and research papers on this subject have been issued and the work is being continued.

Other Foundation research bulletins cover the light-fastness of lithographic ink pigments, the prevention of tackiness and glaze on offset blankets, and dot-etching on dry plates and films. New developments have included Lithotine, a new solvent mixture which takes the place of turpentine and is relatively non-irritant to the skin; Litho-Kleen, a blanket cleaner and preservative; the Paper Hygroscope, an instrument for checking the relative humidity of paper; the Register Rule, a device for detecting paper distortion and preventing misregister; and the Inkometer, an instrument which measures the body or consistency of lithographic and printing inks.

The present activities of the research department include, of course, further research on plate-making and preservation of plates on the press.

(*Turn to page 85*)

Bottom, inks are ground for drying experiments and to study other characteristics. Middle, specially-built equipment is used for studying halftone screens and tone reproduction. Top, various plate coating solutions are tested for alkalinity with a pH tester.



Offset Press

Revised to

Press Designation	Sheet Size Limits	Maximum Size Print	Minimum Gripper Margin	Plate Dimensions	Plate Thickness	Cut of Plate Cyl.	Blanket Dimensions	Blanket Thickness	Cut of Blanket Cyl.	Speed Range	Feeder	Feeder Capty.
HARRIS												
17x22 Harris LSB—Single Color	8½x11 to 17½x22½	17¼x22½	5-16"	19¾x23	.010" to .012"	.015"	23¾x23	.062" to .065"	.075"	Up to 7000	Harris Auto. Suction Pile	20"
21x28 Harris LSN—Single Color	10x14 to 22x30	21⅝x29	5-16"	24⅝x30	.012"	.015"	26½x30	.062" to .065"	.075"	Up to 6000	Harris Auto. Suction Pile	36"
22x34 Harris EL—Single Color	10x14 to 23x36	22½x35	5-16"	25½x36	.012"	.015"	29¼x36	.062" to .065"	.075"	Up to 5500	Harris Auto. Suction Pile	42"
26x40 Harris LSQ—1-Color LSR—2-Color	17x22 to 28½x41	28½x40½	5-16"	32x41	.014"	.020"	37x41½	.062" to .065"	.075"	Up to 5500	Harris HTB Stream Feeder	42"
35x45 Harris LSS—1-Color LST—2-Color	17x22 to 36x48	35⅝x47½	5-16"	40x48	.014"	.020"	45x48½	.062" to .065"	.075"	Up to 5000	Harris HTB Stream Feeder	42"
42x58 Harris LSJ—1-Color LSK—2-Color LSL—3-Color LSM—4-Color	22x34 to 42x59	41⅝x58½	5-16"	47¼x59	.014"	.020"	52¼x59½	.062" to .065"	.075"	Up to 5000	Harris HTB Stream Feeder	42"
50x68 Harris LSF—1-Color LSG—2-Color 3-Color LSH—4-Color	25x38 to 50x69	49⅝x68½	5-16"	54¾x69	To Customer's Specifications		61½x69½	.062" to .065"	.075"	Up to 4500	Harris HTB Stream Feeder	49"
HOE												
30x42" Hoe Single Color Super-Offset Press	17x22 to 32x43	29¾x42¾	5-16"	34x43	As specified by purchaser		42x43½	As specified by purchaser		Up to 5000	Dexter	37"
41x54" Hoe Single Color Super-Offset Press	19x25 to 42x55½	41½x55	5-16"	45½x55¼	As specified by purchaser		54x55½	As specified by purchaser		Up to 4500	Dexter	43"
41x54" Hoe Two-Color Super-Offset Press	19x25 to 42x55½	41½x55	5-16"	45½x55¼	As specified by purchaser		54x55½	As specified by purchaser		Up to 4000	Dexter	43"
50x72" Hoe One-Color Two-Color Three-Color Four-Color	25x36 to 50x72	49½x71½	½"	54x72½	As specified by purchaser		55x72¼	As specified by purchaser		Up to 5000	Dexter or Christensen	48"
Hoe Web Offset Presses Built to Customer's Specifications												
MIEHLE												
Miehle Offset No. 60	24x24 to 42x58	41⅝x58	¾"	47¼x59	.020"	.020"	48x59½	.062"	.080"	Up to 5200	Dexter	44"
Miehle Offset No. 69	24x34 to 46½x67½	46x67	¾"	50x68	.020"	.020"	51x68	.062"	.080"	Up to 4500	Dexter	44"
NEW ERA New Era Multi-Color Web Offset Press Built to Customer's Specifications												
RUTHERFORD												
20x26"	20x26	19½x25	¼"	22½x27	.012"	.012"	27x25	.062"	.075"	Up to 6000 close register 5000	Rutherford Suction Pile	32"
Rutherford 20x29"	20x29	19½x28	¼"	22½x30	.012"	.012"	30x25	.062"	.075"	Up to 6000 Close register 5000	Rutherford Suction Pile	32"
ATF—WEBENDORFER												
Little Chief 20 14x20"	8x10 to 14x20	13½x19	3-16"	15½x20½	.012"	.005"	15¾x20	.065"	.070"	Up to 5000	Webendorfer Vacuum Air	18"
ATF-Webendorfer Chief 22 17x22"	8x10 to 17½x22½	17x22	3-16"	20x22⅝	.012"	.015"	22x22⅝	.062"	.071"	Up to 5000	Webendorfer Vacuum Air	16½"
ATF-Webendorfer Big Chief 29 22x29"	11x17 to 23x29	22x28	3-16"	27½x28⅝	.012"	.015"	27x28¾	.065"	.070"	Up to 5000	Webendorfer Vacuum Air	24"
ATF-Webendorfer Multi-Color Web Offset Presses Built to Customer's Specifications												
WILLARD												
22x30"	11x17 to 22x30	22x29	5-32"	24¼x30	.012"	.017" or optional	26x30	.062"	.075"	Up to 6500 close register 5400	Willard Reloading Suction Pile	40"

Specification Chart

September 1, 1941.

Delivery	Delivery Capacity	Number and Sizes of Covered Inking Rollers	Number and Size of Covered Dampeners	Approximate Weight	Approximate Floor Space	Electrical Specifications
Ext. Pile	18"	3 Form 2 9-16" 5 Distrs. 2½" 1 Ductor 2⅛"	2 Dampeners 2¼" 1 Ductor 2¼"	4750 lbs.	4-5"x6-7"	Press: 3 H. P. variable speed motor. Feeder: ¾ H. P. constant speed motor.
Ext. Pile	16"	3 Form 3" 5 Distrs. 2½" 1 Ductor 2½"	2 Dampeners 2¼" 1 Ductor 2¼"	8000 lbs.	5-10"x8-8"	Press: 3 H. P. variable speed motor. Feeder: 1 H. P. constant speed motor.
Ext. Pile	20"	4 Form 2 9-16" 6 Distrs. 2⅛" 1 Ductor 2⅛"	2 Dampeners 3 1-16" 1 Ductor 3 1-16"	10100 lbs.	7-1"x10-7"	Press: 3 H. P. Variable speed motor. Feeder: 1 H. P. constant speed motor.
Ext. Pile	40"	(For each color) 4 Form 3½" 9 Distrs. 3" 1 Ductor 3"	(For each color) 2 Dampeners 3 1-16" 1 Ductor 3 1-16"	1-col. 21000 lbs. 2-col. 35800 lbs.	1-col. 9-7"x19-4" 2 col. 10-3"x24-0"	Press: 1-col. 7½ H. P.; 2-col. 10 H. P.; variable speed motor. Feeder: 3 H. P. constant speed motor. Delivery: 2 H. P. constant speed motor.
Ext. Pile	40"	(For each color) 4 Form 3½" 9 Distrs. 3" 1 Ductor 3"	(For each color) 2 Dampeners 3 1-16" 1 Ductor 3 1-16"	1-col. 22500 lbs. 2-col. 39300 lbs.	1-col. 10-2"x20-0" 2-col. 10-10"x24-8"	Press: 1-col. 7½ H. P.; 2-col. 10 H. P.; variable speed motor. Feeder: 3 H. P. constant speed motor. Delivery: 2 H. P. constant speed motor.
Ext. Pile	44"	(For each color) 4 Form 3½" 5 Distrs. 3½" 4 Distrs. 3¼" 1 Ductor 3½"	(For each color) 2 Dampeners 3 1-16" 1 Ductor 3 1-16"	1-col. 34000 lbs. 2-col. 57000 lbs. 3-col. 80000 lbs. 4-col. 103000 lbs.	1-col. 12-3"x23-6" 2-col. 14-4"x27-7" 3-col. 14-4"x31-9" 4-col. 14-4"x35-10"	Press: 1-col. 15 H. P.; 2-col. 20 H. P.; 3-col. 25 H. P.; 4-col. 30 H. P., variable speed motor. Feeder: 3 H. P. constant speed motor. Delivery: 2 H. P. constant speed motor.
Ext. Pile	49"	(For each color) 4 Form 3¾" 7 Distrs. 3½" 2 Intermed. 3¼" 1 Ductor 3½"	(For each color) 2 Dampeners 3¾" 1 Ductor 3¼"	1-col. 45000 lbs. 2-col. 72000 lbs. 3-col. 98000 lbs. 4-col. 125000 lbs.	1-col. 13-1"x27-11" 2-col. 14-4"x33-10" 3-col. 14-4"x38-11" 4-col. 14-4"x44-0"	Press: 1-col. 15 H. P.; 2-col. 20 H. P.; 3-col. 30 H. P.; 4-col. 40 H. P., variable speed motor. Feeder: 3 H. P. constant speed motor. Delivery: 2 H. P. constant speed motor.
Ext. Pile	38"	4 Form 3½" 5 Distrs. 3½" 1 Ductor 3½"	2 Form 3½" 1 Ductor 3½"	24000 lbs.	19-7"x9-3"	7½ H. P. variable speed control.
Ext. Pile	43"	5 Form 3½" 5 Distrs. 3½" 1 Ductor 3½"	2 Form 3½" 1 Ductor 3½"	36500 lbs.	22-10"x11-3"	7½ H. P. variable speed control.
Ext. Pile	43"	(For each color) 5 Form 3½" 5 Distrs. 3½" 1 Ductor 3½"	(For each color) 2 Form 3½" 1 Ductor 3½"	69500 lbs.	27-7"x13-0"	10 H. P. variable speed control.
Ext. Pile	50"	(For each color) 4 Form 4½" 7 Distrs. 4½" 2 Ductor 4½"	(For each color) 2 Form 4½" 1 Ductor 4½"	1-col. 52000 lbs. 2-col. 79000 lbs. 3-col. 105000 lbs. 4-col. 132000 lbs.	1-col. 28'8"x14'6" 2-col. 33'8"x14'6" 3-col. 38'8"x14'6" 4-col. 43'8"x14'6"	Press: 1-col. 10 H. P.; 2-col. 20 H. P.; 3-col. 25 H. P.; 4-col. 35 H. P. Feeder: (Electric) 1-col. 3 H. P.; 2-col. 3 H. P.; 3-col. 3 H. P.; 4-col. 3 H. P. Delivery: (Electric) 1-col. 2 H. P.; 2-col. 2 H. P.; 3- col. 2 H. P.; 4-col. 2 H. P.
Pile	44"	4 Form 3½" 4 Form Riders 3½" 3 Drum 2¾" 1 Ductor 3½"	2 Form 3½" 1 Ductor 3½"	1-col. 32500 lbs. 2-col. 56000 lbs. 3-col. 80000 lbs. 4-col. 103000 lbs.	1-col. 22-6"x12-8½" 2-col. 27-8"x12-8½" 3-col. 32-10"x12-8½" 4-col. 38-0"x12-8½"	1-col. 10 H. P. 2-col. 20 H. P. 3-col. 30 H. P. 4-col. 40 H. P.
Pile	44"	4 Form 3½" 4 Distributors 3½" 3 Drum 2¾" 1 Ductor 3½"	2 Form 3½" 1 Ductor 3½"	1-col. 37000 lbs. 2-col. 65000 lbs. 3-col. 101600 lbs. 4-col. 133000 lbs.	1-col. 25-4"x13-5" 2-col. 31-4"x13-5" 3-col. 37-4"x13-5" 4-col. 43-4"x13-5"	1-col. 10 H. P. 2-col. 20 H. P. 3-col. 30 H. P. 4-col. 40 H. P.
Receding Auto Pile	18"	3 Form 2 ⅝" 7 Distributing 2⅛" 1 Distributing 2 ⅝" 1 Ductor 2⅛"	2-2½" diam. Damp. 1-2½" diam. Ductor	8800 lbs.	4-8"x9-6"	3 H. P. Press 1½ H. P. Feeder
Receding Auto Pile	18"	3 Form 2 ⅝" 7 Distributing 2⅛" 1 Distributing 2 ⅝" 1 Ductor 2⅛"	2-2½" diam. Damp. 1-2½" diam. Ductor	9300 lbs.	5-1"x9-6"	3 H. P. Press 1½ H. P. Feeder
Chain Auto Pile	13½"	2 Forms 2 ⅝" 3 Distrs. 1 Ductor 4 Vibrating Drums 1 Rider	2 Plate 2⅛" 1 Ductor 1½"	1700 lbs.	41x57½"	Drive ½ H. P. Pump ⅓ H. P.
Chain Auto Pile	14"	3 Form 2½" 6 Distrs. 2" 1 Ductor 2" 3 Drums 3 Riders	2 Plate 2¼" 1 Ductor 2¼"	3450 lbs.	49x72"	Drive 1½ H. P. Pump ½ H. P. variable speed control.
Chain Auto Pile	16"	4 Form 2½" 6 Distrs. 2" 3 Drums 1 Ductor 2" 3 Riders	2 Plate 2¼" 1 Ductor 2¼"	5800 lbs.	68½x89"	Drive 3 H. P. Pump 1 H. P. variable speed control.
Receding Auto Pile 4 sets patented spring grippers	27"	4 Form 2½" 1-7" Drum 3-3½" Drums 5 Distributors 2⅝" 1 Ink Ductor 2⅝" 5 Riders	2 Plate 2⅝" 1 Ductor 2⅝"	7000 lbs.	5'x8'	3 H. P. Press 1 H. P. Blower

THE OHIO LITHO INDUSTRY

LITHOGRAPHICALLY speaking, Ohio, and particularly Cincinnati, holds one of the topmost positions in the industry by virtue of its 70 lithographic plants, its 3,000 and some odd craftsmen, and its long tradition of lithographic accomplishment. Ohio names, such as Donaldson, Tuchfarber, Strobridge, Henderson, Palm, Zimmerman, Middleton, Wallace, Heekin—to name only a few—have held a significance, not only for Ohio Valley litho craftsmen, but for lithographers in every part of the country for over three generations. Ohio cities, such as Cincinnati, Dayton, Columbus, Akron, Cleveland, were bred in the tradition of that early lithographer-pioneer, Audubon, who travelled up and down the Ohio River and roamed the Ohio Valley, making his famous bird sketches in the early 1800's. Ohio and Lithography, as an art, and later as a highly developed manufacturing process, have always been on the best of terms.

We are told by Major James G. Strobridge, 3rd generation, that at the Strobridge Lithographing plant in Cincinnati are two original drawings on stone made by Audubon in 1845. And at the Cincinnati Art

Museum, which we visited, there is a superb collection of lithographs by Daumier, Forain, Pennell, Bellows, Charles Locke, Mabelle Stamper and Reginald Grooms—many of which were made by these lithographic artists when they were working and living in Cincinnati.

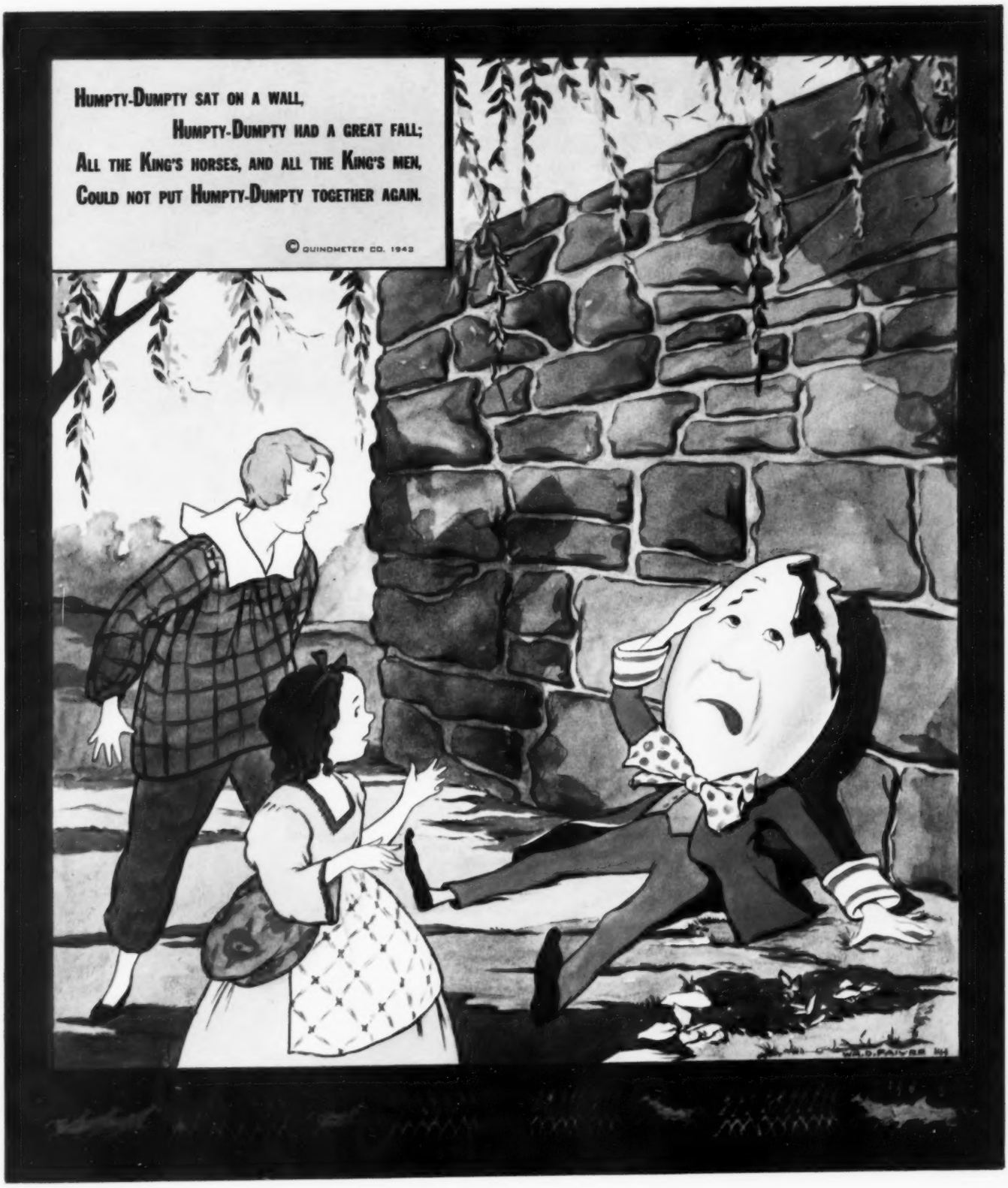
In 1840, having first made its appearance at Boston, New York and Philadelphia, lithography crossed the Allegheny Mountains. The first lithographic plant in Ohio was established in Cincinnati by Emil Klauprech and Adolphus Menzel. Like most of the early proprietors, Menzel and Klauprech were artists, but they realized the commercial importance of lithography. Prior to the advent of lithography the methods of reproducing illustrations were by copper or wood engravings and these were not a faithful replica of the original. Lithography permitted the artist to make his drawings directly on stone, thus all prints were exact copies of the original and were not distorted by engraving tools.

Klauprech and Menzel were followed by Samuel Rowse, Otto Onken and later by several others. By the middle of the century Cincinnati was producing some of the finest lithographic work in the country. Those were the days of exquisitely lithographed letterheads, show cards and color circulars, all printed from stone. There was no hurry—all work was hand-press printed, slowly and carefully.

Only veteran lithographers today remember the then thrilling days of the chromos of the Civil War period and a couple of decades beyond. Chromos were everywhere—as copies of famous paintings, portraits of celebrated personages, pictures of still life—millions of them, in as many as 22 colors. Everybody that was anybody, or was alive to the spirit of the times, collected chromos. Cincinnati led the procession in production of these characteristically American works of art.

The amazing fidelity of these

With the attention of a great part of the lithographic industry focused on the Buckeye State this month, scene of the 9th Annual Convention of the National Association of Photo-Lithographers, it seemed particularly fitting to devote a section of this Convention Issue to the lithographers of Ohio. While not all of Ohio's seventy lithographic establishments are described due to limited space, a sufficiently representative cross-section is presented in the following pages to give a good, round picture of Ohio's prominent place in the industry as a whole.


HUMPTY-DUMPTY SAT ON A WALL,
HUMPTY-DUMPTY HAD A GREAT FALL;
ALL THE KING'S HORSES, AND ALL THE KING'S MEN,
COULD NOT PUT HUMPTY-DUMPTY TOGETHER AGAIN.
© QUINOMETER CO. 1943
WALT DISNEY

How We Grew

From newspaper zinc etchings and halftones to four color offset printing is a broad step in the progress of any business. In 1933, at the very bottom of the depression, The Compton Engraving Company of Portsmouth, Ohio, entered the offset printing field to service potential users of this type of printing in their immediate territory of southern Ohio.

This was a bold step for a small town engraving concern employing four people. Patient and determined workers, however, mastered what seemed at the beginning almost insurmountable difficulties in bringing the standard of offset work up to that which, as engravers, they were accustomed to expect.

Such a step on the part of a small engraver attracted the attention of the American Photo-Engravers Association and B. LeRoy Compton, president of Compton Engraving and Printing Co., was invited to address the Engravers National Convention at Detroit, Michigan. The invitation was reluctantly accepted and the subject assigned was "A Photo-Engraver and His Experience with Photo Offset Printing."

It was no easy task telling the photo-engravers of the United States, who were more or less in the doldrums because of the business depression, how they could create more business by the use of the process they eyed with keenest of criticism.

Co-incidently, this address was used as the forerunner to the introduction by the Commissioner of American Photo-Engravers Association of the Photo-Engravers Magazine "More Business."

The Compton Engraving and Printing Company offers a wide range of services. Photo-engraving, commercial art, photo-offset and letterpress printing are being performed under the same management by a personnel capable of doing any job within the scope of normal small city business.

So the successful jump from newspaper halftones to four color printing verifies to a certain degree the conclusion that demands in the smaller cities require, above all, a broader understanding of all printing processes and eventual union of elements which, in many instances, are now widely separated, but which must be brought together for economic execution and the giving of customer satisfaction.

Insert Lithographed by
Compton Engraving and Printing Company
Portsmouth, Ohio

From Water Color Painting
by William D. Faivre
Staff Artist

Deep etch offset plates

17 X 22 Harris offset Press

Separation Negatives
by John Albrecht.

Color dot etching by W. D. Faivre.

Produced for Quinometer Company.

chromos to the original portraits or paintings of which they were copies was incredible. No ordinary layman could discover the slightest difference between a famous artist's original and the chromo copy of it. Even expert lithographers were sometimes deceived, as the following story shows:

The walls of the Donaldson home, pioneer Ohio lithographing family of Cincinnati, are adorned with many famous original portraits, among them one of George Washington, and alongside it, one that appears to be an original of Martha Washington—and there's the story. For it is not the original Martha portrait, but a chromo so exquisitely done that the disappearance of the original was only discovered by accident one day when the portrait was taken down to be cleaned. What became of the original Martha? Nobody knows, except that it is in the possession of some person who undoubtedly doesn't realize it is an original and a famous painting. It was shipped by mistake along with a large order of George and Martha Washington chromos.

As source material, the early Ohio lithographers made regular yearly journeys to the European art centers in search of outstanding original paintings for their chromos.

They reproduced the world's most celebrated pictures of animals, Indian life, landscapes, and portraits of famous people in all walks of life.

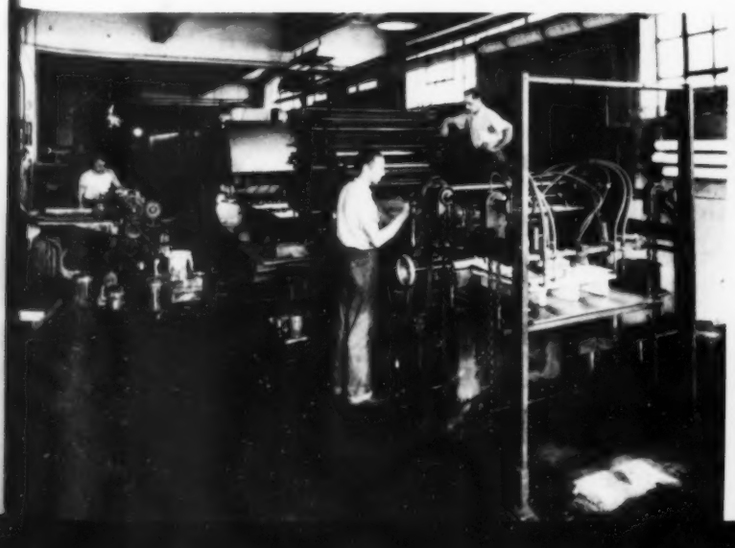
It would be remiss indeed not to mention the art of decalcomania which also flourished early in Ohio under the pioneering influence of Max Palm of Cincinnati. The modern Palm Brothers plant still uses lithographic stones and flat bed presses rather extensively, while also using metal plates and rotary presses for offset and direct printing of lithographed decals. Besides their use for many commercial purposes, the picture transfers of childhood days are still prominently displayed for sale in paint and wallpaper stores throughout Ohio. Or to neglect the name, Zimmerman, which through three generations has placed Cincinnati in the forefront in production of music lithography and fine hotel stationery. Or the name, Korb, which ranks with the best in the production of lithographed bank checks, bond certificates, etc.

However, these are only a few. Today Ohio holds a preeminent place in the lithographing industry as a whole not only because of its old traditions, and the pioneer founders who established those traditions, but because of its modern, up-to-date lithographic establishments throughout the length and breadth of the state. It would be impossible within the limits of the space alloted in this Ohio section to discuss each and every one. However, we can briefly describe a representative few, and in the pages which follow we shall do just that.

DONALDSON ART SIGN

IN 1915, William M. Donaldson, prominent in lithographic history in the Ohio Valley since 1863, particularly as the guiding spirit of the Donaldson Lithographing Company, gathered his five sons about him and organized The Donaldson Art Sign Company, Inc., specializing in the production of lithography on metal. In 1931, he died at the ripe old age of 93, leaving the business in the hands of his five sons, William H., Arch, Frank, Lincoln and Andrew D. Present officers of the company are: Arch Donaldson, president; Andrew D. Donaldson, vice-president; W. D. Brown (grandnephew), secretary-treasurer; Edward Brennan, general superintendent; William and Kenton Donaldson (grandsons), sales.

Donaldson Art Sign Company occupies a two-story daylight building in Cincinnati with a frontage of 270 feet and a depth of 128 feet. The main building is said to be the most massively built industrial structure in the Cincinnati area. Donaldson production is of the heavy metal type, individual sheets in many instances requiring special conveyors



to carry them along in the various operations. The company has cooperated with the General Electric and DuPont Companies in the development of alkyd synthetic insulating varnishes and other special products in the coating of metal signs to give them lifetime permanence. Donaldson maintains five small embossing presses, two large embossing machines, seven lithographic presses, including a Miehle which requires a special conveyor to carry the 40 x 72 metal sheet; and employs 120 people.

STROBRIDGE LITHOGRAPHING

IN 1855, Hines Strobridge, a bookkeeper, joined Middleton, Wallace & Company, of Cincinnati, producers of general lithography and specializing in the production of chromos. In three years Hines Strobridge became a director of the concern and in the fourth year part owner. The company then took the name Middleton, Strobridge & Company. The following year two litho craftsmen by the names of Gerlach and Wagner bought into Middleton, Strobridge & Company and the concern was renamed Strobridge, Gerlach & Wagner with a plant located at Pike's Opera House at Fourth Street in Cincinnati. Strobridge, Gerlach & Wagner was the first lithographic firm in Cincinnati to install steam presses. In 1867, the corporate name was changed to Strobridge & Company. Due to pressure of business, the company was forced to install a 24-hour shift and became one of Cincinnati's first electrically-lighted manufacturing plants.

HAROLD A. MERTEN

In 1877 Nelson Strobridge entered the business and in 1884 a new five-story building was erected at what was then known as Canal Street, now Central Parkway. Shortly afterward the entire building was gutted by fire and practically all of the equipment destroyed. However, a new building was erected on the same site. In 1915 Strobridge Litho installed its first offset press and in 1919 installed a number of rotary direct presses. Strobridge at this time was producing some of the first 24-sheet posters being used in the United States, particularly for Camel Cigarette and Palmolive.

In 1925 Strobridge purchased the Henderson Lithographing Company in Norwood which adjoins Cincinnati, and in 1935 all manufacturing operations of the combined Strobridge and Henderson companies were consolidated in the Henderson building in Norwood, which is one of the most modern in the country. Today, in addition to 24-sheet posters, Strobridge lithographs greeting cards, general displays, booklets and folders. The company employs 250 workers at its Norwood plant. Present officers are Nelson Strobridge, chairman of the board; William H. Merten, president-treasurer; James G. Strobridge, vice-president; Harold A. Merten, secretary-superintendent; and Andrew Donaldson, Jr., sales manager. James G. Strobridge is the grandson of the founder, Hines Strobridge, and is a nephew of Nelson Strobridge.

Strobridge's plant, at Norwood, which is just outside of Cincinnati, covers a city block. This is the plant originally built by Henderson Litho and which became the home of Strobridge when the two companies were consolidated.

HEEKIN CAN

ALBERT E. HEEKIN, founder of Heekin Can Company, began lithographing on tin in an old building on the banks of the now vanished Miami-Erie Canal in Cincinnati. He was everything from office boy and shipping clerk to general manager, and sometimes was his only employee. Today, the Heekin Can Company, of which he is still head, operates two can manufacturing plants in Cincinnati and Norwood.

Founding of the Heekin Can Company was indirectly due to James Heekin, Albert Heekin's father. The elder Heekin was president of a concern which imported coffees, teas and spices and he was dissatisfied with his sources of can supply. He persuaded his son, Albert, to start a can manufacturing establishment of his own, making metal lithographed containers according to his special design. The Heekin Can Company prospered and shortly afterward Daniel M. Heekin, Albert's brother, now secretary-treasurer of the concern, was induced to join the business. Later Walter Heekin, now in charge of purchases and advertising, was also persuaded to become a member of the firm.

ALBERT E. HEEKIN

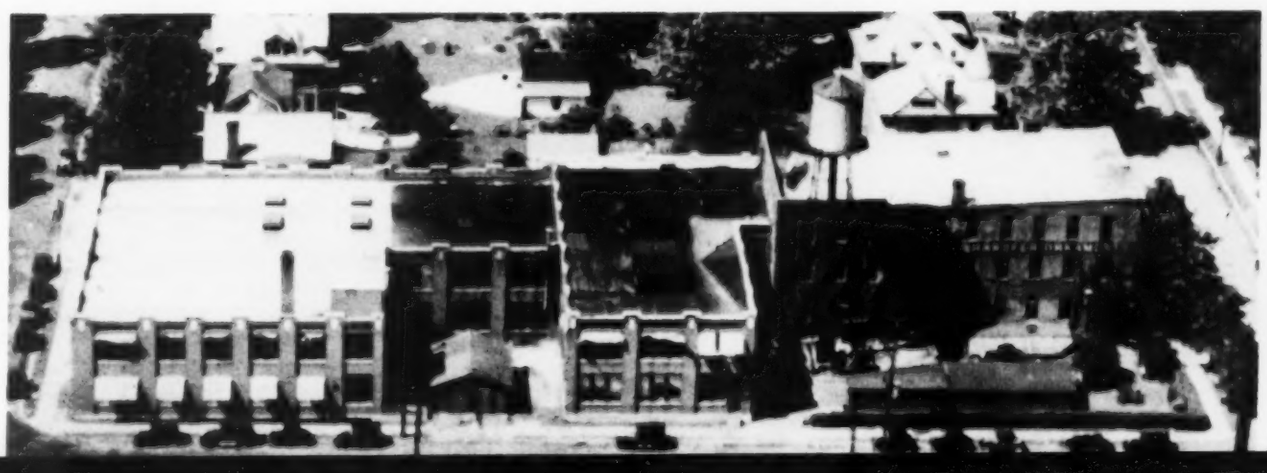
DANIEL M. HEEKIN

Large scale expansion of the Heekin business came as a result of its entry in the sanitary chemicals can field of which it is a major supplier. In addition to his present duties, Daniel M. Heekin is also president of Federal Color Laboratories which was founded to supply the Heekin Can Company and others with lithographic colors. The Heekin concern operates its own lacquer and varnish company as well as a box manufacturing plant.

PALM BROTHERS

THE first patent in this country for decalcomanias was granted in 1826, although decalcomanias were being made as early as the 16th century. It was not until after the close of the Civil War, however, that the decalcomania industry, as we know it, began to grow in this country. Max Palm, founder of Palm Brothers, was one of the pioneers. His associates were his brothers, Otto and Walter. They began in a modest way in Cincinnati, handling only stock designs intended mostly for the adornment of furniture. But they quickly realized the commercial possibilities in developing exclusive and original designs for individual customers. Soon they began to produce decalcomanias for every kind of use, from playthings for children to special letterings of various kinds.

In 1937, Max Palm, the founder, died at the age of 85. His sons, Max and Otto, succeeded to the direction of the company. Today the Palm Brothers decalcomania plant in Cincinnati produces decals for trucks, shop windows, oil tanks, typewriters,



sewing machines, radios, furniture cigarette stamps and food products. Some of the decal jobs now being turned out by Palm Brothers require as many as 42 printings. The company's present officers are: Max J. Palm, Jr., president; Charles P. Irion, vice-president and secretary; G. G. Ludwig and Orlin Roesener, vice-presidents; G. G. Palm, treasurer; and Fred Hepp, superintendent of manufacture.

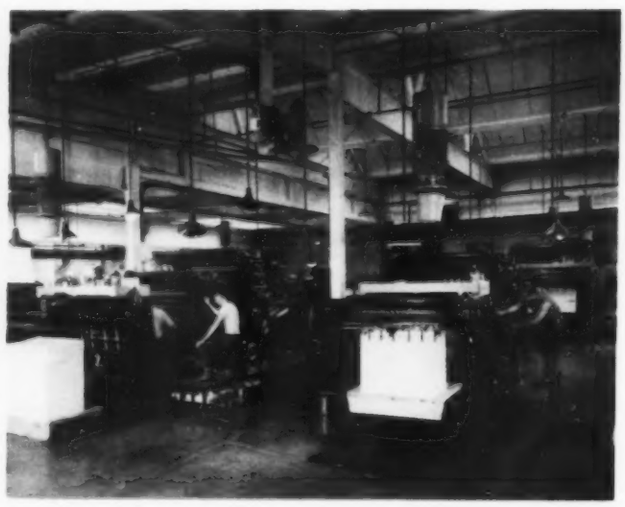
REYNOLDS & REYNOLDS

REYNOLDS & REYNOLDS, Dayton, Ohio, was founded in 1866 and, up until three years ago, was managed by the Reynolds family. Following the death of E. S. Reynolds, Sr., however, R. H. Grant, Jr., bought controlling interest and is now president.

Within the past year, Reynolds & Reynolds, which is among the country's largest producers of lithography, has spent nearly $400,000 for new equipment and buildings and has increased its production capacity approximately 40%. Further expansion is proposed during the coming year. The Reynolds concern specializes in a general line of commercial office forms, stationery and accounting systems. However, within recent years it has grown to be a large factor in the production of direct mail advertising literature and it is expected that more and more of the company's productive capacity will be devoted to this advertising medium in the future.

The company employs 400 workers at its Dayton plant. In addition, there are branches at Boston, Philadelphia, Detroit, Dallas, Atlanta, Los Angeles, Chicago and Buffalo. The company operates 18 offset presses at the Dayton plant. Present officers, in addition to R. H. Grant, Jr., president and general manager, are John Bell, treasurer; John Decker, secretary; Frank F. Pfeiffer, general sales manager; and C. Fred Burtanger, works manager.

Standing, left to right: C. C. Kyle, sales promotional manager; Oscar H. Broker, sales manager, advertising literature division; J. S. Reynolds, assistant general sales manager; L. E. Wright, branch supervisor. Sitting, left to right: Carl Seifert, director of business management; M. M. Dineen, sales manager, systems division; W. G. Pfeiffer, sales manager, commercial division; Frank F. Pfeiffer, general sales manager; R. H. Grant, Jr., president and general manager; John Bell, treasurer; John Decker, secretary; C. Fred Burtanger, works manager.



U. S. PRINTING & LITHOGRAPH

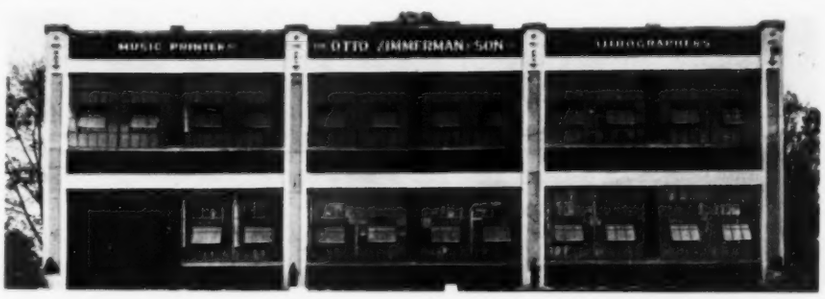
ANTHONY O. RUSSELL, Robert J. Morgan, John F. Robinson (of circus fame) and James M. Armstrong founded U. S. Printing and Litho in 1867. Their first quarters were in an old building on College Street in back of the home of the *Cincinnati Enquirer*, an old landmark in Cincinnati. The first two named founders were lithographic craftsmen of considerable experience. The third was the owner of one of the first circuses in the country and the fourth was a business man. Their business grew rapidly and they soon were forced to take larger quarters.

Since Cincinnati was then the starting point for all circuses and theatrical troupes going on tour, the concern first specialized in the production of lithographed circus posters and flamboyant theatrical displays. However, a label and playing cards department was soon added. In 1891 the corporation name became the United States Printing Company. In 1894 the playing card end of the business was sold to United States Playing Card Company and the concern confined its production to labels, folding boxes, window displays and posters. In 1915, following the merger with Donaldson Lithographing Company, which had been founded in 1863, the corporate name was changed to the United States Printing and Lithograph Company.

Today, U. S. Printing and Lithograph Company maintains plants in Baltimore; Brooklyn; Erie, Pa.; and St. Charles, Ill. Officers of the company are General William Ottmann, chairman of the board; J. P. Thomas, president; H. Langeluttig, vice-president and manager of the Baltimore Division; W. E. May, vice-president and manager of the St. Charles, Ill., plant; A. C. Saylor, vice-president and manager of the Western division, Cincinnati; William H. Walters, manager of the Brooklyn division; John M. Callagan, secretary and director of purchases; L. E. Trame, treasurer; R. E. Welch, comptroller; Justus Schueler, asst. secretary-treas.; and M. Cholak, asst. comptroller.

OTTO ZIMMERMAN & SON

OTTO Zimmerman began lithographing music in Cincinnati in 1876. He employed one press. Today the company he founded, which is run by his son and grandson, is the largest music lithographing concern west of New York. Senefelder, who discovered lithography for the purpose of printing his musical compositions, would certainly be delighted with the refinement his invention has reached today could he look in on the large pressroom of Otto Zimmerman & Son. Their work is acknowledged to follow in the finest traditions of lithographic

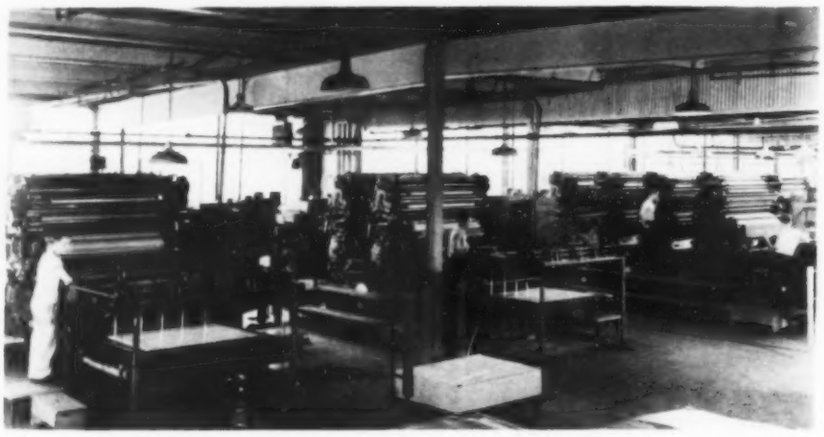


craftsmanship. In addition to lithographing music, the Zimmerman concern also produces a large line of hotel stationery. Present officers are: Arthur Zimmerman, son of the founder, president and general manager; Arthur H. Zimmerman, vice-president; David D. Davies, treasurer; and B. Pherson, secretary.

PROGRESS LITHOGRAPHING

PROGRESS LITHOGRAPHING COMPANY, Cincinnati, was established in 1904 and is one of the most modernly equipped lithographic plants in the middle west, specializing in the production of all classes of offset color work. The concern has just recently purchased a new four-color offset press. In addition, it operates five 2-color offset presses and six single-color offset presses, all of the new high-speed stream feed design. In 1907, the company installed a Harris offset press, one of the first companies to do so in that part of the country.

Officers of the company are Charles H. Klein, president; Ben F. Klein, vice-president; Harry J. Bruder, vice-president; and Sidney E. Miller, secretary-treasurer.



RAINBOW LITHOGRAPHING

THE RAINBOW LITHOGRAPHING COMPANY of Cincinnati, more or less a newcomer in the field, was chartered as an Ohio corporation in 1924. However, it had previously been in the lithographing business under the name of the Charles Boldt Glass Company, a concern which had been prominent in the label field for a quarter of a century previous.

The present plant of Rainbow Lithographing Company is located just a block from the Cincinnati Municipal Airport. The main plant is a three-story brick building to which two new additions have recently been added. Rainbow is one of the leading producers of beer labels in Ohio. The official family consists of Simon C. Nielsen, president and treasurer; Oliver T. Jenkins, secretary and general manager; George A. Nielsen, sales manager, label division; Kenneth J. Crawford, sales manager for displays, folders, booklets and broadsides.

A PANCHROMATIC STRIPPING FILM FOR DIRECT SCREEN SEPARATIONS

Making color combinations is greatly simplified by this new film.

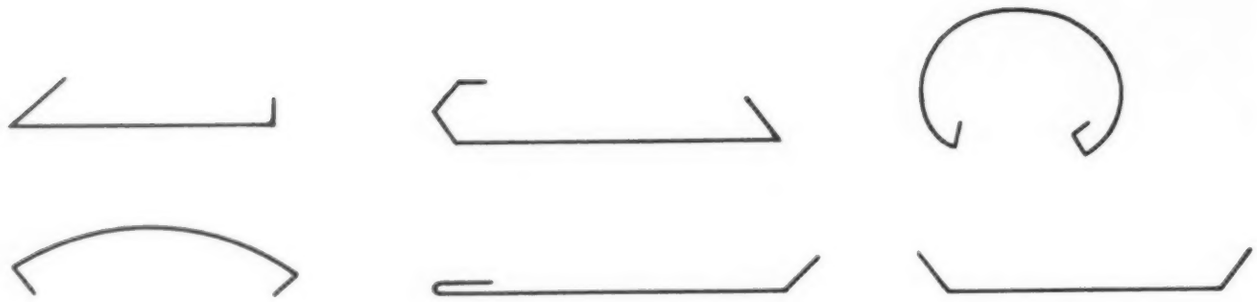
KODAGRAPH Process Panchromatic Stripping Film is intended expressly for the making of direct-screen color separations. Using the highly successful dry stripping technique, you will find this new material particularly helpful in making inserts and in combination color work. It marks a decided advance over the use of collodion emulsion for this purpose.

The new film's emulsion is similar to that of Kodagraph C.T.C. Panchromatic Film. Kodak D-8 Developer, supplied in ready-to-use packages, should be used. Cutting cleanly and holding size accurately, Kodagraph Process Panchromatic Stripping Film, supplied in the same sizes of sheets and rolls, is similar physically to Kodalith Transparent Stripping Film.

Order a supply of Kodagraph Process Panchromatic Stripping Film from your Graphic Arts dealer.

GRAPHIC ARTS SALES DIVISION

EASTMAN KODAK COMPANY, Rochester, N. Y.



These ARE NOT shorthand symbols, Gentlemen . . .

BUT... They are as efficient and as economical

BECAUSE... They illustrate the types of machine-made bends on press plate grippers that we are successfully ironing out to make possible the REGRAINING of plates that heretofore lithographers have been forced to discard.

PROVEN... By 14 months of practical use in three of the Midwest's Largest continuous-form and web-fed offset companies.

Write for full information on this New Service

MAKLIN LITHO PLATE GRAINING CO.

551 W. Congress Street . . . Chicago, Ill.

•

Creators of the Maklin Conveyor drying system . . . the Maklin Single-eccentric graining machine . . . Distributors of W. A. Taylor pH control equipment and pioneers of the practical use of pH in lithography. One of America's largest and most progressive graining plants.

CONTINENTAL LITHOGRAPH

CONTINENTAL LITHOGRAPH CORPORATION, Cleveland, which was founded in 1926, is engaged in considerable defense work at present in developing a line of fluorescent airplane instrument dials, maps, etc. In addition, the concern has developed for the advertising trade a wide range of ultra-violet products, including fluorescent lithography, fluorescent lacquer enamels, satins, coatings, etc., as well as a complete line of ultra-violet lighting equipment.

Carl F. Moellmann is president.

Other officers are Thomas A. Moellmann, vice-president; Samuel Schneider, treasurer; Edward T. Morris, secretary. Continental employs 300 workers. The plant has a complete offset department, full photographic equipment, 13 direct rotary presses, 4 collotype presses and 13 offset presses. It has specialized in producing mounted window and counter displays and outdoor posters. Sales branches are maintained in New York, Chicago, Detroit, Pittsburgh, Atlanta, San Francisco, Los Angeles and Seattle.

FOTO-LITH, INC.

FOTO-LITH, INC., Cincinnati, another newcomer, was founded in 1931 by the late J. R. Zimmerman, formerly a director of the National Association of Photo-Lithographers. The concern specializes in the production of direct mail, folders, catalogs, stuffers, window streamers and counter displays. It has grown rapidly, having tripled its productive capacity in the past five years. The company recently added a new offset press, bringing the present total to three.

The company recently initiated an interesting buyer educational campaign through the use of promotional broadsides which graphically and convincingly describe the advantages of lithography. The broadsides have created considerable comment.

Harry E. Brinkman

Foto-Lith's official family and executive staff is composed of Harry E. Brinkman, president-treasurer; Charles E. Fay, vice-president; Mrs. Harry E. Brinkman, secretary; Frank Peterson, shop foreman; Walter Ader, head of production department; and Frank Geers, head of sales department.

KORB LITHOGRAPHING

KORB LITHOGRAPHING COMPANY, Cincinnati, was founded in 1908 by Henry L. Korb and John J. Hoyt. In 1912, the company erected a new modern plant on Reading Road in Cincinnati and today is one of the most extensive producers of bank checks and commercial stationery in the middle west. In 1919, John L. Holzborn, formerly of the Rocky Mountain Bank Note Company, Denver, obtained controlling interest and is now president and treasurer. O. H. F. Weissman is vice-president and general manager and M. A. Bauer is secretary. In addition to a complete offset plant, Korb has its own art, imprinting and bindery departments.

NO PITTING-

and no accumulation of paper lint

Here are three good features of Vulcan Litholastic Rollers:

1. *No Swelling or Pitting.*
2. *Splendid Distributing Qualities.*
3. *Long, Economical Service.*

Users also report good results with washing attachments used on Vulcan Litholastic Rollers . . . a good, clean wash-up job.

Plant of the Vulcan Proofing Company, Brooklyn, N. Y.

Litholastic Rollers are doing good work on metal decorating presses, as well as on presses used for printing on paper stocks.

Write for details about Vulcan Offset Blankets and Litholastic Inking Rollers. Please mention what types of offset presses you are using.

VULCAN PROOFING COMPANY First Ave. and Fifty-Eighth St., Brooklyn, N. Y.

Sales Representatives in Principal Cities

VULCAN

Offset Blankets and Litholastic Rollers

COLUMBUS BANK NOTE

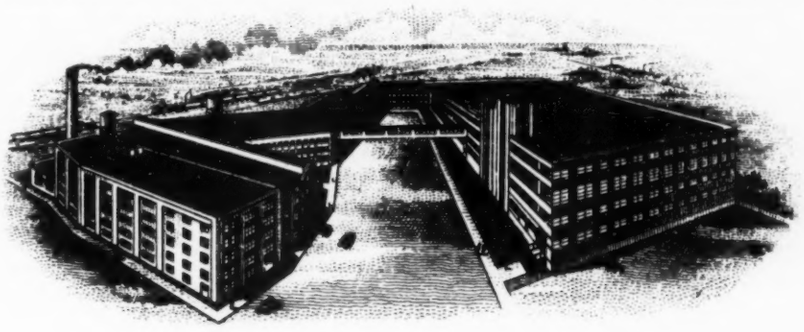
COLUMBUS BANK NOTE COMPANY, Columbus, Ohio, enjoys the distinction of being one of the few lithographing companies left in the country which operates lithographic stone presses in addition to maintaining a completely equipped modern pressroom. The business was founded in 1894 by William Nace and upon his death was continued by his sons, Edward E. Nace and Sinclair B. Nace. The Columbus Bank Note Company specializes in the production of lithographed checks, vouchers and supplies for banks and financial institutions. In addition to this, folders and broadsides of a general advertising character are also lithographed.

At present there are 9 employees who have been with the company more than thirty years and over 20 who have been with the concern for more than twenty years of continuous service. Founded at North Third Street in Columbus, the company moved into its present plant at East Spring Street in 1915. Present officers of the concern are Ernest H. Matheny, president; Martin W. Richwine and Robert G. Kelley, vice-presidents; and Edward E. Nace, secretary-treasurer.

SAALFIELD PUBLISHING

SAALFIELD PUBLISHING COMPANY of Akron, Ohio, is known for its lithographed reproductions of popular-priced picture story books for children. The company publishes its own publications as well as lithographs them. It was founded by Arthur J. Saalfield in 1897 and from a modest beginning has since developed into one of the major publishing factors in the juvenile book field.

Through profitable hook-ups with the Quiz Kids of radio fame and other children's radio programs, Saalfield children's books have received both parental approval and wide publicity. The publishing plant and main offices in Akron are known as Saalfield Square. The company employs 250 workers. Official personnel consists of Arthur G. Saalfield, president; E. R. Adam, treasurer and vice-president; A. J. Saalfield superintendent and vice-president; and Harry L. Knapp, secretary. A sales office is maintained in New York.



SAALFIELD SQUARE

CENTRAL LITHOGRAPH

CENTRAL LITHOGRAPH COMPANY, Cleveland, was founded in 1902 by Major D. W. Johns and his son, William Johns. Previous to the founding of the Central Lithograph Company, the Johns, father and son, owned and operated the D. W. Johns Lithograph Company which had been in business in Cleveland since the early 1880's, specializing in the production of lithographed cigar labels and general commercial work. This company produced some of the earliest color lithographic work in Ohio.

In 1927 the Johns family retired from the business and ownership was taken over by the following, its present officers: E. R. Schurdell, president and sales manager; William H. Watkins, Jr., vice-president and production manager; John Kuentz, treasurer and auditor; and O. F. Liebner, secretary and art director. The company employs 100 workers and today specializes in the production of labels, displays, Christmas holiday box papers and greeting cards. The concern was among the first to produce motion picture displays, including large photo-plate portraits of early movie stars by a screenless reproduction process.

IF AN OFFSET PRESS COULD ONLY TALK—

Unerringly it would choose AQUATEX, the modern dampening cover for offset rollers, and DAMPABASE, the newly perfected seamless undercovering. Hundreds of pressmen have become convinced that AQUATEX is double insurance for producing better results and for speeding up production. DAMPABASE is now as well known as AQUATEX. It is the perfect, seamless undercovering for dampening rollers. It slips on easily and is the perfect base for AQUATEX. If your press could talk it would vouch for both AQUATEX and DAMPABASE.

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FOUNTAIN SOLUTIONS
and their effects on litho inks

Results of research on the relationship of fountain water to ink, with conclusions as to the significance of the data obtained.

BY THOMAS J. CRAIG

Krebs Pigment & Color Corp.

IN searching through the literature on the lithographic process, we find that much work has been done regarding the composition and characteristics of fountain solutions. Various chemical formulae have been proposed and discussed and the bulk of the writings, as well-informed opinion, are in good agreement as to the safe pH for fountain solutions.

However, with a few minor exceptions, discussions and investigations on fountain solutions have been confined to their action on the lithographic plate. Little has been written, and to the best of our knowledge practically no controlled research has been done, on the relationship of fountain water to inks. What has been written has been in the nature of press room observation, valuable contributions to be sure, but without the advantage of accurately and scientifically controlled observations made over a large range of variable conditions which lead to substantially indisputable conclusions.

It is the purpose of this paper to describe work which has been done with the relationship of fountain water to ink and to draw some conclusions as to the possible significance of the data obtained. There will be those who read this article who will perhaps be much more capable of interpreting the results than the writer, but it is hoped that this study may stimulate more thinking on the problem.

For years, certain pigments, notably Chrome Yellows, have been standardized for lithographic properties by methods known as "Lithographic Breakdown" tests. It is a known fact to all pigment makers that batches of Chrome Yellows, though made under apparently identical conditions, do not exhibit the same resistance to fountain water. The reasons for this are not entirely clear since chemical analysis and physical tests, such as microscopic examination of crystal characteristics, show no difference between good and bad batches. It was, therefore, necessary to devise a test which, while simple enough for routine standardization procedure would at the same time reproduce conditions physically similar to those met in severe press operation. Otherwise, pigments, uniform lithographically, could not be supplied to the ink maker.

The Test

The test employed in our laboratories is as follows:

An ink is ground in #1 Transparent Litho Varnish and allowed to stand over night. Forty grams of this ink are placed in the 4-inch mixing can of a small change can mixer. The stirring rods are made from ⅛-inch drill rod. The ink is then just covered with a fountain solution and the mixer started. The mixing operation is timed with a stop watch and the condition of the ink carefully observed. Any undue amount of emulsification in the water or unusual shortening of the ink is taken as an indication of probable failure. The test is run for ten minutes and, if an ink survives this length of time without change, it is thought to be just about perfect. Generally a pigment which will resist this test for six to seven minutes is considered good. Care should be taken in the selection of the varnish to be used in this test because experience has shown that varnishes vary as much in this respect as do pigments. All varnishes used in this test are first standardized using a pigment of known performance before using it in routine tests.

It has been found that the selection of a fountain solution is rather important. Many types of solutions were carefully tested and it was found that the following "standard" composition was the most effective:

10.2 Zinc Nitrate
1.3 Potassium Acid Tartrate
18.4 Gum Arabic

Dissolve the zinc and potassium salts in hot water; Soak Gum Arabic

WORLD CHAMPION

Shatters previous typing records on an IBM ELECTROMATIC Typewriter

Operating an IBM Electromatic Typewriter, Miss Margaret Hamma established a new professional world's record of 149 net (5-letter) words per minute for one hour. ☆ The first half-hour of this performance won for her the amateur championship. ☆ These records were made in competition with 8 other professional contestants and 44 other amateur contestants from various parts of the United States and Canada. ☆ The competition was held under the auspices of the International Commercial Schools Contest in Chicago, on June 19 and 20, 1941. ☆ For further information, address our general offices, 590 Madison Avenue, New York City.

INTERNATIONAL BUSINESS MACHINES CORPORATION

Offices in *Principal Cities*

over night; strain; Combine above solutions and make up to 1000 cc.

Note:—3 cc of 40% Formaldehyde will prevent fermentation for some time.

This has proved to be the most severe of any of the fountain solutions in general use and, moreover, has the additional advantage of being water white, thus making the detection of slight water bleeds very easy. Undoubtedly the severity of this solution is due in a large part to the presence of the gum arabic which acts as an emulsifying agent and causes the early destruction of susceptible pigments. It was hoped at one time that the gum arabic could be eliminated because the solutions are very prone to fermentation and have to be continually made up new. Such elimination, however, so greatly reduced the sensitivity of the test that it had to be restored.

For the study discussed in this paper, however, solutions were also made up as follows:

(*a*) Citric Acid ($C_6H_8O_7.H_2O$)—0.1 Molar.

(*b*) Disodium Phosphate ($Na_2HPO_4.12H_2O$)—0.2 Molar.

These chemicals were selected because they represent a convenient method whereby blends of definite pH values may be prepared by mixtures of (*a*) and (*b*). These are known as McIlvaines Standard Buffer Solutions and the following blends were made in accordance with the procedure described on page 681 of the Chemical Rubber Handbook:

The following solutions were also employed:

"Standard" Solution.....3.3

Gum Solution (1.84%).....5.5

Tap Water.....7.5

The "Standard" Solution is that described in the test procedure.

The 1.84% Gum Solution carries the same percentage gum as the "Standard" Solution and duplicates of 1—13 inclusive were made carrying this amount of gum. The pH values were determined by potentiometric methods.

The two inks employed were made from:

1. A pigment which both in our test and in press performance shows good lithographic resistance.
2. One which shows poor resistance.

The term "break" is the time at which the mass of ink no longer adheres to the bottom of the mixing can. It is assumed that at this stage the fountain solution has invaded the ink to such an extent that it no longer will adhere to the greasy metal. "Bleed" is a measure of the emulsification of the ink into the solution and is determined by direct observation and also by the filtered fountain solution. "Ink Body" is a measure of the shortness, lack of flow and tack of the final ink.

SUMMARY

(A)—Best pH Value

The results of this study would seem to indicate that it is best to keep the pH of the fountain solution as close to 7.0 as possible so far as the ink is concerned, although variations of one unit in either direction will have little effect. This conclusion is based only on considerations of what is good for the ink and the requirements for satisfactory planographic reproduction have been ignored.

Authorities are in general agreement that as far as the plate is concerned the pH should not be allowed to drop below 3.0. Tritton[1] states "The best hydrogen-ion concentration for an etch has not been determined but colorimetric determinations of the pH of various etches show that approximately pH 3.0 is suitable, while if the solution is more acid than pH 2.0, scum is rapidly removed but a satisfactory film is not formed." Mack[2] states "Drawing from experience, I would say that values between 3.8 and 5.4 are ideal . . . at strengths such as 3.0 or less the corrosive action of the fountain etch will attack the grain and possibly ruin the plate before the job is completed." Mack[2] further states "The greater the acid strength, the more easily does it break down the resistance of the ink to water. The result is emulsification or the formation of tiny ink globules that ball up on the distributors, preventing even coverage of the form rolls and resulting in off-tints."

This latter statement of Mack is in direct agreement with the data obtained in this test. How closely it is possible to approach neutrality in a fountain solution and still have satisfactory performance as regards the plate itself one would not hazard a guess, but it is a reasonable assumption that the ideal pH will be a compromise between that which favors the plate and that which favors the ink.

In making these assumptions the writer is well aware that we are here considering results obtained by the use of only one pigment, namely, Chrome Yellow, and that an ink formulated 3 parts of Chrome Yellow pigment to 1 part of #1 Transparent Litho Varnish is not a good

BLENDS

	Sol. A. (c. c.)	Sol. B. (c. c.)	pH with Gum	pH without Gum
1	196.0	4.0	2.3	2.2
2	178.2	21.8	2.6	2.7
3	160.0	40.0	3.0	3.2
4	144.0	56.0	3.3	3.4
5	129.0	71.0	3.7	3.7
6	123.0	77.0	4.0	4.0
7	112.0	88.0	4.2	4.4
8	101.5	98.5	4.5	4.9
9	88.5	111.5	5.2	5.4
10	74.0	126.0	5.7	6.0
11	61.5	138.5	6.3	6.4
12	35.0	165.0	6.9	7.0
13	5.5	194.0	7.7	7.9

[1]Tritton, F. J.—A study of the Theory of Lithographic Printing. Journal Soc. Chemical Industry (Trans.). Vol. 51—Sept. 9, 1932.

[2]Mack, Norman C.—Practical pH Control. MODERN LITHOGRAPHY, page 37, Feb. 1941.

DATA

Sample No.	Description	GOOD CHROME YELLOW INK								POOR CHROME YELLOW INK					
		With Gum Arabic				Without Gum Arabic				With Gum Arabic			Without Gum Arabic		
		pH	Break	Bleed	Ink Body	pH	Break	Bleed	Ink Body	Break	Bleed	Ink Body	Break	Bleed	Ink Body
A	Blend (1)	2.3	8'05"	Poor	Bad	2.2	8'20"	Fair	Bad	0'20"	Poor	V. Bad	0'20"	Poor	V. Bad
B	Blend (2)	2.6	8'05"	Poor	Bad	2.7	8'20"	Good	Bad						
C	Blend (3)	3.0	8'35"	Poor	Bad	3.2	8'30"	Fair	Bad						
D	Regular Sol. (TF-19-4)	3.3	None	Good	Fair+					0'25"	Poor	V. Bad	0'25"	Poor	V. Bad
E	Blend (4)	3.3	8'10"	Poor	Fair—	3.4	None	Fair	Fair—						
F	Blend (5)	3.7	8'25"	Poor+	Fair+	3.7	8'55"	Fair+	Fair"						
G	Blend (6)	4.0	9'30"	Poor	Good	4.0	10'0"	Fair+	Good						
H	Blend (7)	4.2	None	Fair	Good	4.4	None	Good	Good	0'20"	Poor	V. Bad	0'55"	Poor	V. Bad
I	Blend (8)	4.5	None	Fair—	Good	4.9	None	Good	Good+						
J	Blend (9)	5.2	None	Fair	Excel.	5.4	None	Good	Excel.						
K	Gum Sol. (1.84% wt.)	5.5	None	Good+	Good"										
L	Blend (10)	5.7	None	Good	Excel.	6.0	None	Good	Excel.						
M	Blend (11)	6.3	None	Good	Excel.	6.4	None	Good+	Excel.	0'40"	Poor	V. Bad	4'30"	Poor	V. Bad
N	Blend (12)	6.9	None	Good	Excel.	7.0	None	Good+	Excel.	3'25"	Poor	V. Bad	7'40"	Poor	V. Bad
O	Tap Water					7.5	None	Good+	Excel.						
P	Blend (13)	7.7	None	Good+	Excel.	7.9	None	Good+	Excel.	4'05"	Poor	V. Bad	None	Poor	V. Bad

lithographic ink. However, Chrome Yellows are very sensitive to adverse press conditions and the formulation employed in no way protects them from the action of fountain water but makes them still more sensitive to the conditions of this test.

(B)—Effect of Gum

The incorporation of gum arabic into a fountain solution tends to increase its emulsifying action, giving a "bleed" which cannot be filtered out with a #1 filter paper. From the standpoint of emulsification alone the performance of the ink would be improved by the omission of the gum. Tritton[1] states, speaking of the desensitizing action of acids, "This desensitization is not, however, very marked and is never so great as that given by gum arabic alone . . . The application of gum to a surface which has been etched greatly increases the degree of desensitization and it would appear as though the two types of desensitization were additive." Moreover, he states, "Gum alone while more powerful than acid to reject ink has no power to remove scum."

Thus, from the standpoint of the complete lithographic process, it seems highly necessary to have both gum and acid present. However, the action of gum arabic is not severe enough to destroy the working properties of an ink in which the ingredients are properly selected and soundly formulated.

(C)—Character of Fountain Solutions

The data reveals that the solution containing Zinc Nitrate, Potassium

Acid Tartrate, Gum is less severe than the Citric Acid, Di-sodium Phosphate, Gum, at the same pH. This definitely indicates that fountain solutions vary in their severity in respect to other variables besides pH.

(D)—Fountain Solution vs Poor Ink

There is little here to indicate that variations in either pH or type of solution, will in any way make a poor ink good. On the other hand, however, it is highly probable that a good ink may be put in a bad light by the excessive severity of the fountain water.

•

The importance of the deep-etch process as a conservation measure is pointed out by William H. Wood, research director, in an article describing the process appearing in the current issue of *Harris Impressions*, house organ of Harris-Seybold-Potter Co. Now that it is necessary to conserve metal stocks wherever possible, Mr. Wood suggests that since the deep-etch plate will outlast albumen, this process should be the choice for extra long runs or repeated runs. He describes the essential steps in making a deep-etch plate and emphasizes the importance of dependable chemicals in the preparation of the solutions necessary. Another feature article in the current issue is "Scum on Offset Presses," which discusses the causes leading to scum in the press and how this may be prevented.

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color separation . . .

By using a combination of photographic materials and filters which, the author shows, give a closer approximation to the ideal.

BY L. L. PERSKIE
Defender Photo Supply Co.

THE inefficiency of the tri-color filters in conjunction with Panchromatic materials for the making of color separations is an acknowledged fact. Because of these filters and incorrectly balanced process inks, masking or hand color correcting is essential. Theoretically, the filters should transmit 100% of their color and absorb 100% of all other colors. Actually, as Figure 1 shows, the transmission and absorption of the tri-color filters falls very short of this mark.

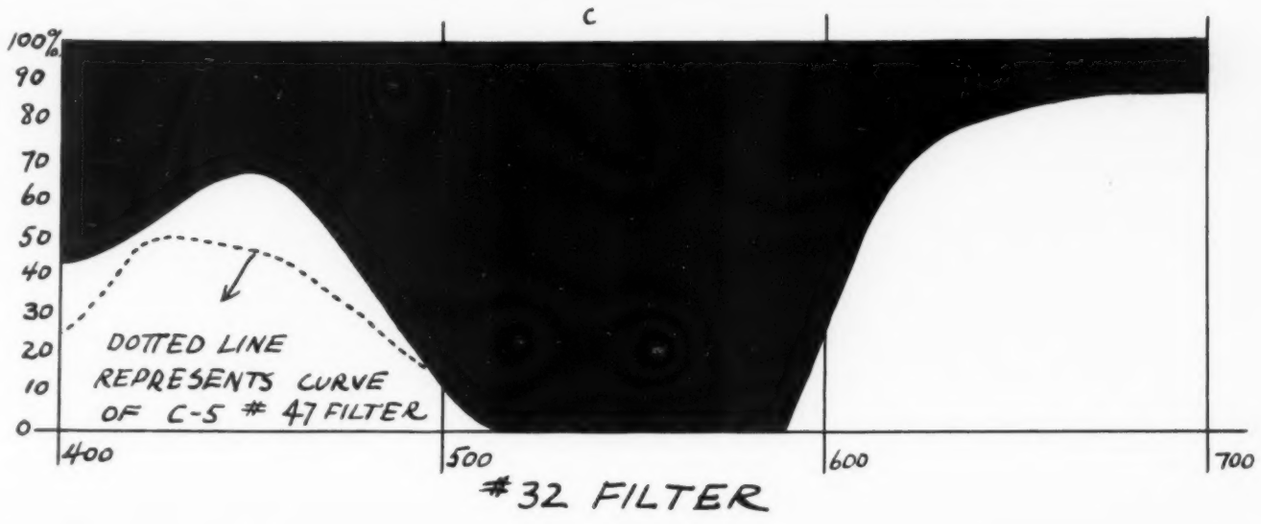
If it were possible to obtain filters whose absorption and transmission were 100% efficient, hand work would be minimized to a negligible degree. However, since it is not possible to obtain such filters, some thought might be given towards a combination of photographic materials and certain other filters which would evolve a closer approximation to the ideal. The closer the approach to the ideal, the greater the degree of efficiency over the present recommended procedure.

With this thought, the consideration of the inherent sensitivity of Orthochromatic emulsions is first necessary. Figure 2 (next page) shows the sensitivity curve of the average Orthochromatic plate or film.

An analysis shows it to have great sensitivity to violet, blue, and green, but no sensitivity to red. Such an emulsion could be utilized with certain filters to evolve a closer approximation to the ideal than the present tri-color method. The #32 filter, known as a green absorption filter, transmits the blue, violet, and red, but absorbs the greens. This filter in conjunction with an Orthochromatic material will yield a closer approach to the ideal than will the C5-#47 filter with Panchromatic material. Figure 3 shows the transmission and absorption of the #32 filter by comparison with the C5-#47 filter.

Bearing in mind the fact that Orthochromatic emulsions have no red sensitivity, the red transmission portion of the #32 filter has no

Fig. 1. Comparison of tri-color filters with ideal. Shaded portions combined with curves represent ideal taking filters.



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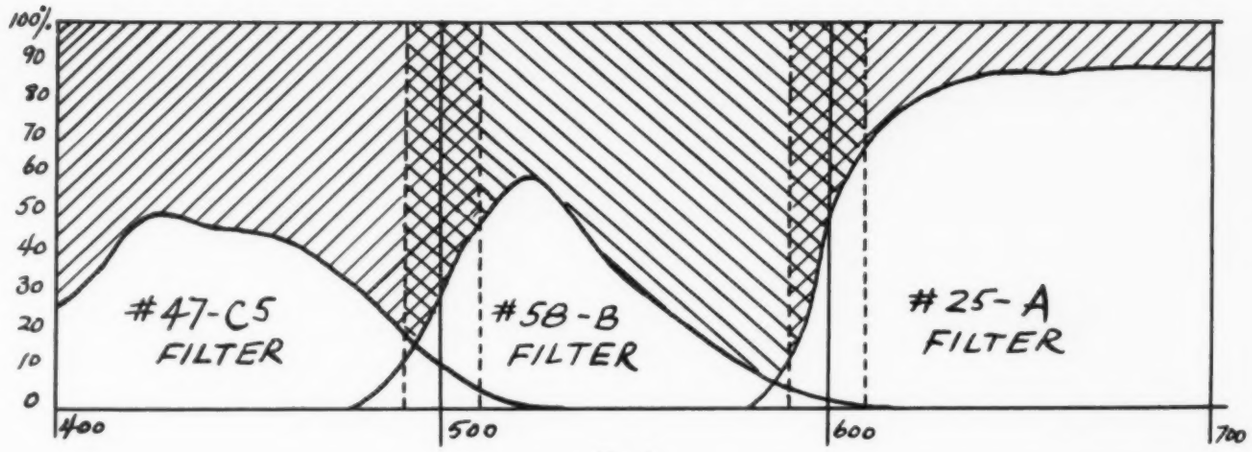


Fig. 3

effect on the ultimate negative. Since the blue transmission of this filter is considerably greater than the C5-#47 it therefore renders a better blue recording.

Both the camera operator and the artist see daily evidence of the amount of corrective work necessary on the blue record negative (yellow printer). The method described above is not a cure-all but it does produce a superior recording.

THE making of the green record negative (red printer) likewise better employs the use of the Orthochromatic material with another filter than does the usual B-#58 filter and a Panchromatic emulsion. The #5 filter is considered a minus blue filter. It absorbs the violet and blue and transmits the green and red. Figure 4 compares the green transmission of the #5 filter with that of the B-#58 filter.

The dotted line approximates the end of the sensitivity of the Orthochromatic emulsion, showing that the combination of filter and emulsion results in a superior recording of the green than the B-#58 filter yields. Since it is granted that the red recorded negative (blue printer) requires the least amount of correction due to its close approximation to the ideal, it is recommended that the A-#25 filter and Panchromatic material be continued.

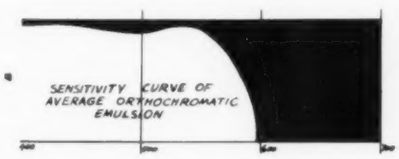


Fig. 2

The filters* and materials suggested are recommended for the separating of flat copy such as paintings, Carbros, Chromotones, Chroma-relief and Flexichrome prints.

Sharper cutting filters are suggested for separating Kodachromes. If the same procedure, of using both Ortho and Panchromatic materials, is to be used, the following filters are recommended.

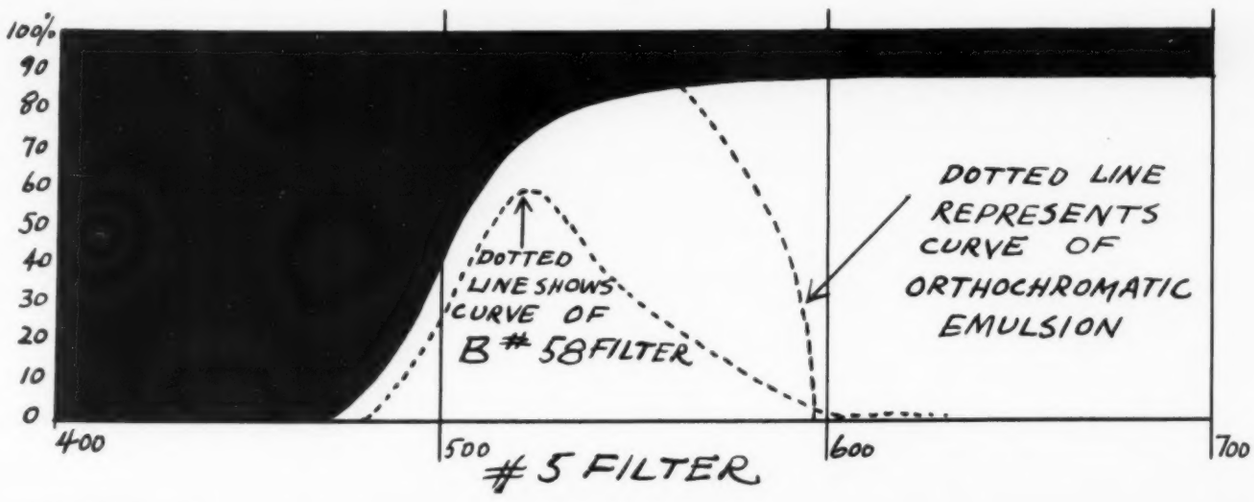
The #31 filter with Ortho yields blue record (yellow printer).

The #12 filter with Ortho yields green record (red printer).

The #26 filter with Panchromatic yields red record (blue printer).

*All filters mentioned are the Wratten and Wainwright filters manufactured by Eastman Kodak Co.

Fig. 4



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making kodachromes

Suggestions for obtaining the maximum reproduction value in Kodachrome photography.

By I. H. Sayre

Chicago School of Printing & Lithography

KODACHROME pictures are quite easy to make but to be successful it is necessary to exercise care in several important details. First one must take the general precautions necessary for black and white pictures and then to these add precisely correct exposures, careful consideration of variation in subject color as influenced by light conditions and surroundings, avoidance of excessively contrasty subjects, and attention to color harmony.

Good color rendering in Kodachrome pictures depends on correct exposure more than anything else. The stop at which the shot is made should be correctly estimated, as an error of more than half a stop will result in failure. By the term "stop" is meant the lens marking to indicate apertures such as f/2, f/2.8, f/4, f/5.6, f/8, f/11, f/16. Progressing from f/2 to f/2.8 the exposure difference is doubled, or to reverse this, from f/2 to f/2.8 the exposure difference is cut in half. In other words the area of the opening of the lens at f/2 is twice that of f/2.8 and therefore twice as much light is admitted during the same exposure time. The markings on continental lenses are usually different from those given above, or f/2.2, f/3.2, f/4.5, f/6.3, f/9, f/12.5, and f/18.

Correctly exposed Kodachrome has all the colors well reproduced, and when properly projected these colors are neither too light nor too dark. This assumes of course that the subject was not too contrasty to record properly.

Underexposed Kodachrome appears too dark, or even black. Overexposed Kodachrome is too light and the colors seem bleached and pale. Kodachrome is a reversal process and for this reason the more light that strikes the film, the lighter will be the processed film.

Things which affect correct exposures in outdoor pictures are the amount of light reaching the subject from the sun and the sky, and the reflecting power of the subject. These various factors have been taken into consideration in preparing exposure tables and these guides are very helpful in obtaining correct exposure. A booklet entitled "How to Expose Kodachrome" was published by Eastman Kodak Company, and I believe is still available. This Kodachrome guide allows for lightness or darkness of the subject and saves many hours of guess work. There are always exceptions to the rule and the exposure guide does not cover every possibility, but it is generally very useful.

A photoelectric exposure meter can be a great help. It does not follow, however, that an exposure meter which has been applied successfully to black and white film can be applied, without study, to color film. These meters over a period of rough handling may suffer a change in calibration. The error may not be discovered in black and white photography, but in color work where exposures are far more critical, they will cause trouble. The following factors will influence the reading of an exposure meter: (1) the angle of view of some meters includes considerably more than the camera; (2) the meter adds up light from the whole scene, therefore the highlights have great influence, especially the sky in outdoor pictures. The effect is particularly noticeable from an overcast sky.

The meter manufacturer's recommendations should be followed especially with respect to avoiding undue influence from bright parts of the subject or from the sky. A meter reading should be taken with the principal subject ever in mind. Any undue influence from a bright sky or object will result in underexposure. In making Kodachromes with a still camera outdoors, any meter reading calling for less than 1/50 second at f/8 should be disregarded (with the exception of shots made of the sky or objects in the sky).

It is often advisable in using a meter on a side-lighted subject, where

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the shadows are poorly illuminated, to double the indicated exposure; and for a strongly back-lighted subject, four times the indicated exposure is preferred. No light source should strike the meter, while taking the reading. If good results are not obtained after taking these precautions the meter and camera should be checked by test exposures. This can be accomplished by taking a number of ordinary scenes in full sunlight and comparing the values it gives with the exposure tables. An exposure should be made at the meter reading, then another exposure at one stop more, and again at one stop less. After doing this with a number of subjects, a final meter setting may be chosen which should be satisfactory.

IN taking a meter reading under artificial light, the meter should be held close to the subject and not near the camera. In holding the meter near the camera the background is included and an incorrect reading is obtained. Care should be taken that a shadow is not cast upon the subject, however, while taking the reading. In photographing very small objects the meter may be placed in the position of the subject. If this is not feasible, a small piece of white paper 3 x 5 inches may be placed in front and against the subject, a reading taken, and the indicated exposure time doubled.

In making still Kodachromes, meter readings should be made both for the set as a whole and for any important details of it. These readings can be compared with the Kodachrome transparencies resulting therefrom, and a meter setting selected which gives best results. This setting may be used for future work. The following settings are suggested as a guide for using Kodachrome with Weston and General Electric Meters.

	Weston Meter		G. E. Meter	
	Daylight	Photoflood	Daylight	Photoflood
Kodachrome Regular 8	3*		12	5*
Kodachrome Type A 8*	12		12*	20

*Using an appropriate Kodachrome filter.

In making meter settings for Kodachrome it is well to follow the figure published by the manufacturer unless test exposures indicate that another setting gives better results.

As indicated above the speed of Kodachrome Type A is higher than its daylight speed with filter because of the amount of light absorbed by Type A Kodachrome filter for daylight.

For Kodachrome Professional Film, the following settings are suggested:

	Weston Meter		G. E. Meter	
	Daylight	Photoflood	Daylight	Photoflood
Type B.....	4*	6	6*	10
Daylight.....	5	..	8	..

*Exposed through Wratten Filter No. 85B.

Certain meters of continental make call for settings in the DIN or the Scheiner systems. The various makes of these meters do not require the same DIN or Scheiner setting for Kodachrome, however, and no figure can be given for these settings which is dependable. Meters calibrated in these systems should be checked by test exposures as directed above, and a meter setting adopted which shows the best results. A frequently used DIN setting is 14/10° with the requirements of some meters ranging above and below this.

Both DIN and Scheiner film speed scales are logarithmic and an increase of 3 anywhere on the scale indicates a doubling of the setting. For example, if in the test exposure a Scheiner setting of 20° is unsatisfactory and the results indicate that twice as much exposure is needed, a setting of 17° should be adopted for that particular meter. Likewise if half the amount of exposure is indicated, 23° would be taken.

Subjects against the light are most commonly underexposed; marine scenes are commonly overexposed; woodland scenes are frequently underexposed. The latter are difficult because of the great difference in the sunlighted and shaded areas. The exposure should always be made for the most important area.

A Kodachrome showing dark areas which are too dark and light areas too light results from a subject brightness range which is too great for good color photography. An excessive brightness range should be avoided as it cannot be correctly reproduced. When outdoors, having the sun behind the photographer usually results in a satisfactory lighting. If the subject is well illuminated by open sky, other positions which give a side or back lighting may be taken. In making close-ups of an object, a reflector to lighten the shadow side is desirable. A white paper or screen held outside the camera angle of view will do. Correctly exposed Kodachromes made on a hazy day are often pleasing because of the soft lighting. Pictures taken on dull days are somewhat bluish and a Kodachrome Haze Filter can be used if a warmer tone is desired.

ONE of the most common mistakes made in taking indoor pictures on Kodachrome is to highlight the subject and leave the foreground, background, and sides of the subject area poorly lighted. Though these areas may appear fairly bright to the eye they will record too dark and loss of color results.

Kodak Reflectors with diffusers are recommended for still pictures as undiffused reflectors give a much narrower beam of light than the field angle of most lenses with the result that the edges of the picture may be too dark. Side lighting or back lighting must be additional to the light coming from near the camera, otherwise the camera side of the subject will be too dark in the picture.

Experienced workers will of course know best how to depart from these recommendations for particular effects.

A variation in subject color may be obtained from the same subject when viewed in various surroundings and under different lightings. The "normal" color of a subject is taken as that which is seen by direct sunlight. The same subject in the shade or illuminated by blue sky appears very bluish. For the same reason, shadows in any sunlighted subject under a blue sky appear blue. Subjects photographed under a misty or gray sky seem bluish but not as

(*Turn to page 85*)

INTENSIFICATION...

a method for increasing the quality of line and halftone negatives.

IN THE early days of photography when dry plates and films were in their infancy, both of these gelatin emulsions and the older collodion processes depended a great deal upon intensification treatment to overcome a lack of sensitivity. With every improvement in the speed and quality of photographic emulsions, the necessity for intensification has lessened. Today, therefore, the need for intensifying negatives to overcome inherent deficiencies of the emulsion is considerably less than in previous years. As a result intensification has fallen somewhat into disuse. The writer feels, however, that intensification treatment has a definite place in the every day photo gallery routine.

A negative after all is but a means to an end. We are not actually interested in the negative itself but in the result it will produce. The making of a line or halftone negative is but one of a series of steps leading to lithographic reproduction. The negative, therefore, should be considered from the point of view of the final result and steps which will enhance the result should be carefully considered. Most photographers consider the after-treatment of negatives by means of intensifiers and reducers as a means of correcting errors in exposure or development, or both. The experienced camera man, however, resorts to such chemical manipulations to produce effects that are beyond the scope of the camera and sensitive materials. This is particularly true in regard to certain halftone and line effects from very difficult copy.

It is a recognized fact that the halftone screen has certain limitations which make it difficult to obtain an accurate reproduction of the entire range of the tone scale. As a general rule middle tones will offer no difficulty and it is possible to produce highlight or shadow tones to balance with the middle tones. But it is extremely difficult to get a facsimile or balanced reproduction of all three. If the exposure and technique are such that the highlights and middle tones are balanced, the shadow areas are generally out of line. Conversely, if the screen technique maintains a balance between the shadow areas and middle tones there is usually a loss in the highlights. The above remarks are based on a maximum density of the screen dots. If the camera man would expose a negative based on the proper dot formations and diameter without regard for opacity, he would have a negative with a reasonably accurate tone reproduction but which would lose its visual tone scale by printing through when making the plate. Such a negative however can be made usable by a simple intensification treatment. In other words a camera technique in conjunction with an intensification process will make possible a truer tone reproduction than is possible by camera treatment alone.

In order to obtain certain effects the flash exposure is often omitted. In many such cases it will be found that some of the lower middle tone dots are of insufficient opacity. This lack of opacity will cause these dots to print through with the result that some of the lower middle tones will print solid with a subsequent loss in detail in the shadow areas. Here again intensification will be found extremely useful.

In halftone screen work we are always confronted with the need for obtaining the proper dot diameter with maximum opacity. Since it is not always possible to obtain both by means of camera manipulations, intensification should be resorted to for opacity, leaving the camera manipulations to produce the correct dot diameter or shape.

This question of dot size and opacity is also prevalent when making halftone negatives or positives by contact. The inherent spreading of light rays after they leave their source as well as a further spreading of the light through the emulsion of the plate or film, are two factors which tend to alter the tone value as recorded in the master negative or positive. The greater the exposure to obtain maximum density, the greater the distortion will be. By exposing for accurate duplication of tone values, the opacity can always be augmented by intensification.

There are innumerable applications of this system in line work. When working from poor copy, the subject matter is often lost in an effort to obtain maximum density for the background. By the reverse of

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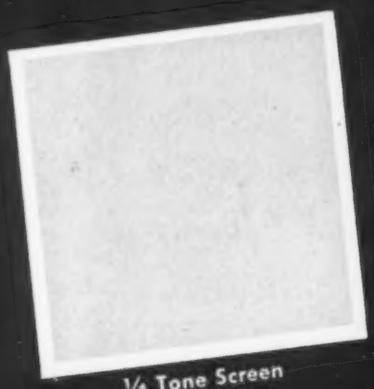
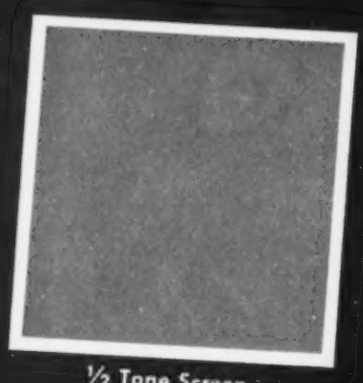
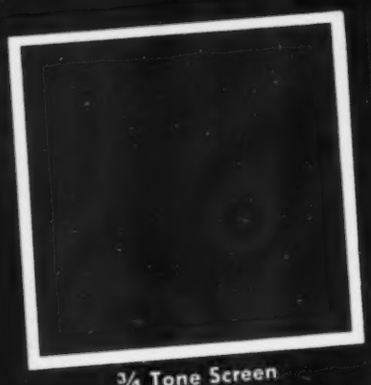


¼ Tone Screen



½ Tone Screen



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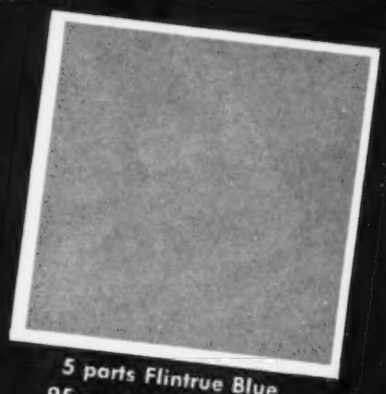

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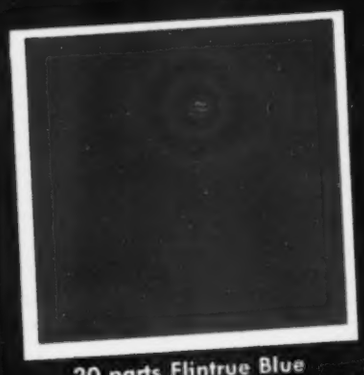

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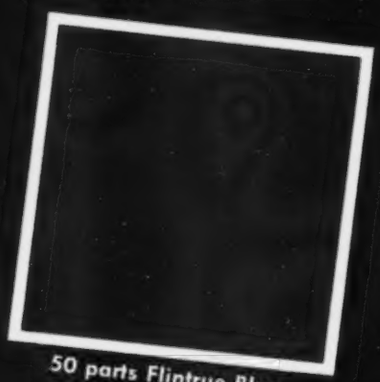

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this procedure and resorting to intensification, excellent negatives from poor copy will be the rule rather than the exception. In addition, intensifying a low density negative will consume less time than opaquing.

The writer was recently confronted with a job which clearly illustrates the importance of an intensifying technique. The job consisted of an 86-page booklet largely type matter and line illustrations. The inside pages of this booklet offered no problem in making line negatives, but the cover did. The cover originally was of a medium blue color upon which type matter had been printed in black ink. Since this piece of copy was a number of years old, the cover stock had faded and now had a dirty, grayish-blue appearance. In addition, the type matter was not a dense black but showed through in places. We were concerned only with getting a faithful record of the typed matter.

THE problem this job offered was to obtain a good type reproduction and yet maintain the requisite opacity in the background. An extensive opaquing job was out of the question because of some very fine type interspersed with bold type. The first negative was exposed for the background and then reduced (after processing) in Farmer's Reducer until the type was sufficiently open. Because of the heavy cut (bite) needed to open up the type, the opacity of the background was weakened so that it would print through. In this plate the negative was worthless. A second negative was exposed for the type matter without regard for the background and after development it was intensified. Before intensification this second negative had the appearance of the first negative after it had been cut. The second negative after its completion represented a good negative from that particular piece of copy.

The reader is undoubtedly aware that the first negative could have been strengthened by intensification but obviously the first procedure would entail two chemical manipulations. In addition overexposure often will deform type matter in such a way that reduction can not overcome it. For a job of this kind filters would have no advantage. It might be said, therefore, that the only possibility for getting a good negative was an exposure based on subsequent intensification of the negative. To enter into detail on all of the possibilities for intensification is outside the scope of this article. It is the reader who can best judge when to rely upon intensification.

From a scientific point of view there is a decided difference in the chemical and physical action of the numerous intensifiers in use. Intensifiers may be roughly classified as follows:

(*a*) Solutions of the salts of certain metals which have a higher opacity than silver and which combine with the silver of the image through chemical reaction. A varying intensification is produced depending upon the metal combined with the silver.

(*b*) A solution of metallic salts which combine with silver and which produce a discoloration which also adds to the strength of the image (staining intensifier).

(*c*) Silver salts in conjunction with other chemicals which cause the silver in solution to combine with the silver of the image (physical development).

(*d*) Complex dye stuffs in combination with developing agents which create a non-actinic dye image at the same time the silver image is developed (dye coupling).

Of utmost importance to the success of any intensifying technique is a thorough fixation and washing of negatives and positives before attempting intensification. It should be borne in mind that intensification is chiefly a series of chemical changes and any residual chemicals in the negative or positive will therefore produce unwanted chemical reactions. Enamelled trays that have been chipped so that the base metal is exposed should be avoided. Glass and hard rubber trays will be found most satisfactory.

An excellent example of a mercury type intensifier is the following: (Source: G. Cramer Dry Plate Co.)

Solution I

Water . . . . . 16 ozs.
Mercuric Chloride . . . . . ¼ oz.
Potassium Bromide . . . . . ¼ oz.

The negative which must be well fixed and washed is bleached in this bath until it is thoroughly whitened. After rinsing carefully, the bleached image is placed in the following solution:

Solution II

Water . . . . . 8 ozs.
Sodium Sulfite Anhydrous . . . 1 oz.

The plate or film is left in this solution until it is entirely cleared. If after this first treatment the intensification is found not sufficient the operation may be repeated. If the negative has been intensified too much, it may be reduced by placing it for a few seconds in a solution consisting of 1 oz. of hypo to 16 ozs. of water. Before drying the intensified negative should be well washed.

Solution I may be kept as a stock solution indefinitely. Solution II, however, should be mixed immediately before use. For even greater intensification Solution II may be replaced with a developing solution, such as, Eastman Kodak Company's D-72 diluted with 2 parts of water. For still greater intensification, treat the bleached image with a 10% ammonia solution.

Chromium Intensifier—Stock Solution:

Potassium Bichromate . . . 3 ozs.
Hydrochloric Acid . . . . . 2 fluid ozs.
Water to make . . . . . 32 ozs.

The negative is bleached in a working solution consisting of one part of the above stock solution and 10 parts of water. After the negative has been bleached thoroughly, it is washed well (no less than 5 minutes) and then re-developed in any suitable elon-hydroquinone developer. Developers containing an excess of sulphite should be avoided for this purpose since sulphite in high concentration has a tendency to dissolve the silver chloride before the developing agents have become effective. The entire process can be repeated if greater intensification is desired. Before drying the intensified negative should be washed thoroughly.

The Uranium Intensifier, which

(*Turn to page 93*)

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Defense and Lithography

Please bear in mind that the defense picture is a rapidly changing one and that this is a monthly report. The facts reported herein represent the latest available information at the time of going to press. They may change overnight.

THE PAPER SITUATION

INASMUCH as offset paper stocks have undertaken several successive advances in price recently and many paper mills are heavily booked for forward shipment, which, plus restrictions placed by OPM on the use of chlorine by the paper industry, has intensified shortages in certain paper stocks, we shall devote our entire defense column this month to the paper situation.

So panicky did the feeling become at the latter part of August that we queried a number of large paper manufacturers and asked them if they were prepared to give a statement regarding the paper situation inasmuch as lithographers were pretty much at sea about what was happening and what the future held. The following are a few of the comments we received in reply. We hope that they may throw some light on the subject, although, as most of the paper makers pointed out, it is impossible to make any definite statements one way or the other at present because no one knows the circumstances which may occur to alter existing conditions in a very material way.

From a large offset paper manufacturer in the east:

SINCE conditions in the paper industry are dependent on the national defense program, and since changes are occurring rapidly, anything we say must be considered subject to change. So far this year the demand for paper has been in excess of the capacity of the industry. We expected that the usual seasonal decline would occur this Summer to afford an opportunity for catching up on the backlog, but this decline has not occurred and it is getting late to expect it.

An important question which cannot be answered with any degree of accuracy is the amount of paper which has been bought in anticipation of future requirements. The probability is that there has been some advance buying, but the amount is hard to estimate.

Opinion is divided as to the possibility of a paper shortage in 1942. If shortage develops, there is very little anyone can do about it, and it would be very difficult at this time for printers or consumers to protect themselves. Buying in anticipation of future shortage is unwise for at least two reasons: first, it is doubtful if the paper could be secured at the present time in these excess quantities; and, second, it would greatly aggravate the present situation and make it more difficult to take care of requirements which are needed for early use.

Opinion is also divided as to the possibility of a shortage of pulp in 1942. This will be determined to a large extent by the needs of the government for munitions. It is expected that supply will be very close to demand.

It is doubtful if there will be a definite shortage of paper, although it is probable that deliveries will be delayed. Buyers of paper have become accustomed to expecting delivery immediately after the placing of an order. Probably this habit will have to change, and requirements will have to be anticipated with more foresight.

Shortage of materials other than fiber may be expected, and such chemicals as chlorine and formaldehyde have already been placed on restricted lists by the government. Shortage of these materials will probably affect the qualities in paper more than the supply, but the effect on qualities will probably be gradual and may not even be noticeable for some time to come.

It is impossible to make any definite

SINCE receiving the views of leading paper manufacturers on the paper situation expressed in this article, we learned that late last month representatives of the packaged chemical, drugs and soap industries met at the request of Norbert A. McKenna, chief of the Paper and Pulp Commodity Section of OPM, to consider ways and means of cutting their paper requirements 25 per cent. In addition to the re-use of containers and cartons, other means suggested were absolute elimination of display material, direction booklets, premiums, stuffers, etc. As we understand it, the representatives of the industries named above were first given the opportunity—if that is the word—to voluntarily reduce their paper usages the stipulated 25 per cent. If that doesn't work out to the satisfaction of Mr. McKenna a directive may be issued by OPM ordering the slash. Since the industry group named above is only one of several who will be called upon to reduce their paper requirements, and since the paper products which may be eliminated 100 per cent are among the chief products of the lithographic industry, the paper situation has taken a dramatic turn.

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"Not long ago a contribution of mine appeared in MODERN LITHOGRAPHY, and I was astonished—though I should not have been—to learn how many of my friends and professional acquaintances read your paper, and take the trouble to comment on what appears there. One of the people who wrote to me was a lithographer who thought so well of the article that he asked me, out of the blue, to consult with him on all of his production problems from now on. Does MODERN LITHOGRAPHY always arouse its readers' interest as effectively as that?"

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statements regarding the situation which buyers of paper can expect because no one knows the circumstances which may occur to alter present conditions and present expectations in a very material way.

From an offset paper manufacturer in the middle west:

IN response to your telegram, it is impossible for any individual, or individual concern, to make any definite prophecies as to the situation regarding paper production, demand, or supplies. In fact, I do not believe that those organizations set up to work with the Government can give a particularly clear picture.

It is obvious that Governmental demands—not only for finished paper, but for pulp, chemicals, glue, etc.—must come first. This may create a commercial shortage from both ends—with mills not having supplies on which to run to capacity, and a great part of the production being diverted to the Government.

The commercial situation may therefore depend largely upon the scope of Governmental demands, and the skill with which those demands are met. I believe that the Pulp & Paper Division, and the various organizations working with it and with the Government, are doing the best possible job to protect commercial business to the greatest extent commensurate with proper service to the Government.

At the moment, there is no specific shortage that must cause concern. It is our feeling that panicky buying has created a substantial part of the present situation. If everyone will keep his shirt on, there may be no serious shortage in the future. If buyers get hysterical, there is apt to be a serious shortage for the sane buyers, combined with an overloaded inventory for the panicky buyers.

We have not shorted a single old customer, and at the same time have done more than our share to fill Governmental demands. It is our opinion that other mills are pursuing about the same policy of level-headed operation.

It will certainly do the lithographic field no good to become hysterical and create a worse congestion. In fact, this action will undoubtedly create an untenable condition. The chances are excellent that normal buying will find the mills capable of supplying every pound of paper needed. Abnormal buying will unquestionably spoil that probability, and every individual concern, as well as the industry as a whole, will suffer by it.

From another midwestern offset paper manufacturer:

THE quantity of paper available is always limited at any time by productive capacity. At the present time mills are finding it difficult to meet the demand, and the length of time that this condition exists will naturally depend on the length of time the present demand continues. It is possible that part of the excessive demand today may be due to considerable forward buying because of fear of shortage and delayed deliveries.

Up to now the pulp shortage has not affected paper production, however, reserve supplies are decreasing and if any considerable quantity of pulp is commandeered by the Government some shortages may develop. Chlorine, titanium, formaldehyde, and certain dyes are, of course, on the restricted list of OPM and the supply of many other materials is reduced. Delivery of certain materials used in maintaining manufacturing equipment is also affected. It must be understood that the paper industry is operating subject to defense requirements and this will be the important factor in any future developments.

From a large eastern manufacturer of offset paper:

THE last time that the paper industry operated at full capacity was in the war period of 1918-1919. Since then capacities have been increased. The capacity for producing paper is, therefore, greater than ever in the history of the industry. Yet, of course, the industry cannot produce more than its capacity.

Inasmuch as the entire industry is now operating at capacity, one could not justify a statement that there is a shortage of pulp. Clearly, if the available volume of pulp permits capacity operation of all units in the industry, there is an adequate supply.

There has been much loose conversation about a pulp shortage induced by curtailment of imported pulp. While the United States imported pulp, American pulp makers exported it. Furthermore, in that period, American pulp makers were selling only a portion of their capacities.

American pulp makers are currently meeting all needs of the paper industry, the rayon industry, and the munitions industries. However, curtailment of pulp imports cut the supply of unbleached pulps and required some paper makers to switch to domestic bleached pulps at higher cost.

It is conceivable that sometime in 1942 an increase in the consumption of pulp for nitrating (for munitions) and for rayon (induced by silk restriction) may create a shortage of pulp. And it is conceivable that restrictions on transportation may delay arrival of paper making materials and the delivery of paper. But that is a future speculation. It is not an existing condition.

We are not aware of any current need for substitute materials for making coated and uncoated book papers. Switches in sources of supply are necessary. For example, imported tapiocas have been bought for the making of starch (for surface sizing, etc.). Now they are not available, and so domestic tapiocas are used. That is no substitution. The difference is merely an increase in cost.

Undoubtedly, the manufacturers of some specialty products have had to make substitutions. For example, chemicals for making colored box cover papers bleed-proof are restricted. Aluminum is not available for the making of silver papers. Possibly, pyroxylin coaters may be restricted, but we do not know.

So far as coated and uncoated book papers are concerned, chlorine is the only significant item on the priorities list. Chlorine is used for bleaching pulps to make them bright. A rationing of chlorine will rob papers of some of their brightness, but it will not impair printing qualities.

Of course, all papers made of bleached pulps will lose some brightness. Opinions regarding which papers will be most affected, and how much, are merely opinions at this time, because plans for rationing chlorine have not clearly been defined.

There are no real facts to indicate a shortage of paper. Available for use is a manufacturing capacity that has never been consumed until now. Evidence that current needs, which have admittedly expanded, can consume the available capacities, has not yet been shown.

Loose conversation imposed on war hysteria and supplemented by fear that undefined shortages may develop, has prompted great numbers of buyers to order requirements for many months ahead. Obviously, no industry can produce current and unlimited future requirements in any given month, and in consequence, the paper industry is far behind in deliveries and is booked for months ahead. It is important to note, however, that this condition was not created by shrinkage of materials or production, or by any shortage, but by advance buying that approaches hysteria. Conceivably, actions of the government may create an actual shrinkage of capacities, and a consequent shortage, but that is a future speculation.

In the interests of service, the paper manufacturers have attempted to spot the orders that represent future buying so that manufacture of those orders could be deferred to make way for the manufacture of orders actually needed. These efforts have met with little success for two reasons—(a) so far as printers and

(*Turn to page 93*)

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Offset platemaking

Another in the series on Platemaking by Mr. Nicholson, production manager of Ronalds Offset Lithographers, Ltd., Montreal, Canada, and author of "Photo-Offset Lithography." Mr. Nicholson will be glad to answer any questions you may have regarding Platemaking. Address your inquiries to MODERN LITHOGRAPHY.

BY DON NICHOLSON

Photo-Composing Machine Preparation

PLATES for photo-composing machines whether albumen or deep-etch are prepared in the usual way. The procedure for counter-etching and coating of plates is exactly the same. The only difference comes in carefully checking the comparative humidity of the platemaking room, and in varying as exactly as possible the whirler speed or exposure time according to the variant. The reason for this precaution is that a photo-composed plate has of necessity multiple exposures, and due to this fact there is not much tolerance because of the extra time that is taken to make several exposures.

Work set up for the photo-composing machine must always have center marks on four outside edges of the work for the platemaker to use for registering the positive or the negative. For color work the marks are photographed in place from cross marks that are put on the originals. For simple black and white work they can be drawn in place with an etching needle on the negative and the same on a positive except that the lines on the positive must be blackened. Some photo-composing machines were originally designed for the work to be done on glass photographic plates. This is not always convenient as many firms now use film negatives and positives. If you have one of these machines, film can be used by attaching it to a glass plate that fits the chase, providing thin base film is used Thick base film may be used but it is liable to give trouble. This film may be fastened to the glass plate by scotch tape, but scotch tape may give trouble on hot days when it overlaps

the image as the chase is moved in various positions on the surface of the plate. If this trouble occurs it is wise to use thin paper tape to fasten the film to the glass plate in the chase.

Orange paper masks are made to fit the chases of the photo-composing machine; these masks are made one-eighth inch smaller all around than the face of the chase. Center lines are drawn first on the mask, then a layout is drawn from the center lines the required size with overlaps indicated. The negative is fastened in place on the mask, emulsion side up, with either scotch tape or paper tape well away from the work. The mask is then cut away from the front sides as flats are. All open places are blocked off. The mask is then fastened in place as before described on the glass in the chase.

In the case of a positive to be used for a deep-etched plate, it is fastened in place on the glass which is in the chase with transparent scotch tape; care must be taken to make sure that there is a slight overlapping on the edges of the positive images as they are moved across the plate so as to do away with unnecessary staging. When work has been photographed on glass plates for photo-composing work it is necessary that the image be as square and as near the center of the photographic plate as possible. The same applies to masks or film positives which have to be attached to the glass plate in the chase. The reason for this is that there is generally about one-eighth inch tolerance for variation in centering the plate on the chase, although on the new type chases there is about twice this amount of tolerance.

Small layouts for the photo-composing machine are made with the moves and measurements indicated. These moves are usually indicated in thousandths of an inch: for example, 25 1/8 inches are written 25.125. The horizontal moves are figured from a center figure. For example, 27 inches is the center figure on some machines; the measurements for the vertical moves are figured from zero, which is usually at the gripper. Space is allowed for bleeds where necessary and the measurements for the moves for the chase across the plate are figured from the center lines and not the edges of the work.

Various methods are recommended by different manufacturers of photo-composing machines for the sequence of the moves. In any case, the moves should be made in a regular order, sometimes horizontally across the

plate, then moving the chase down and making moves in a reverse direction horizontally across the plate. Sometimes the moves are made in a series of verticals. It depends on the nature of the subject and the way it is set up in the chase. When there are a great number of small subjects, such as labels, it is better to step and repeat the image on the negative or positive either in a multiple back camera or a photo-composing machine made for this particular purpose. Then this ganged negative or positive is used in the platemaking photo-composing machine.

All modern photo-composing machines have some convenient method of fastening the press plate exactly in place; this must be done very accurately being sure that the press plate does not have any chance to move during the photo-composing operation. Some photo-composing machines have masking curtains to cover the plate except where the exposure is being made; other machines have a hood which directs the light from the arc lamps only on the chase. In either case it is advisable to do the work in a room lighted with orange light to save unnecessary fogging.

There are several devices for regulating mechanically the amount of light for each exposure. These devices help in keeping the duplicate images the same, especially in the case of a half-tone negative or positive whose dots are not quite sharp.

In some cases movement of the chase will carry the edge of it off the edge of the press plate. This will spoil the contact of the negative or positive on the plate; this may be helped by placing a piece of heavy paper butting the edge of the press plate so that the overlapping part of the chase is on the paper.

The inking and developing of photo-composed plates follow the normal procedures. It is a good practice to file the small layouts made for the photo-composing in a folder or a series of folders in sequence according to the number of the job. This will save considerable time if a plate has to be remade. It is also possible to set up a standard layout for such jobs as the 8½ by 11 form—8 up on 22 x 34 sheet.

Offset paper at work

Another in the series on offset paper by Mr. Wheelwright, author of "Printing Papers," a definitive work on papers of all types for the Graphic Arts, recently published by University of Chicago Press.

BY WILLIAM BOND WHEELWRIGHT

LOOKING again at paper as a third dimensional commodity, what means can be taken to effect economy? We have pointed out the importance of thickness factors in their relation to finish and ream weight and seen that by using rougher finishes, relatively higher bulk and lower weight lessen the cost per sheet. This leaves only the linear dimensions to economize on. This sort of economy must originate in the planning of the job. The old adage "cut your garment according to the cloth" must be our guide.

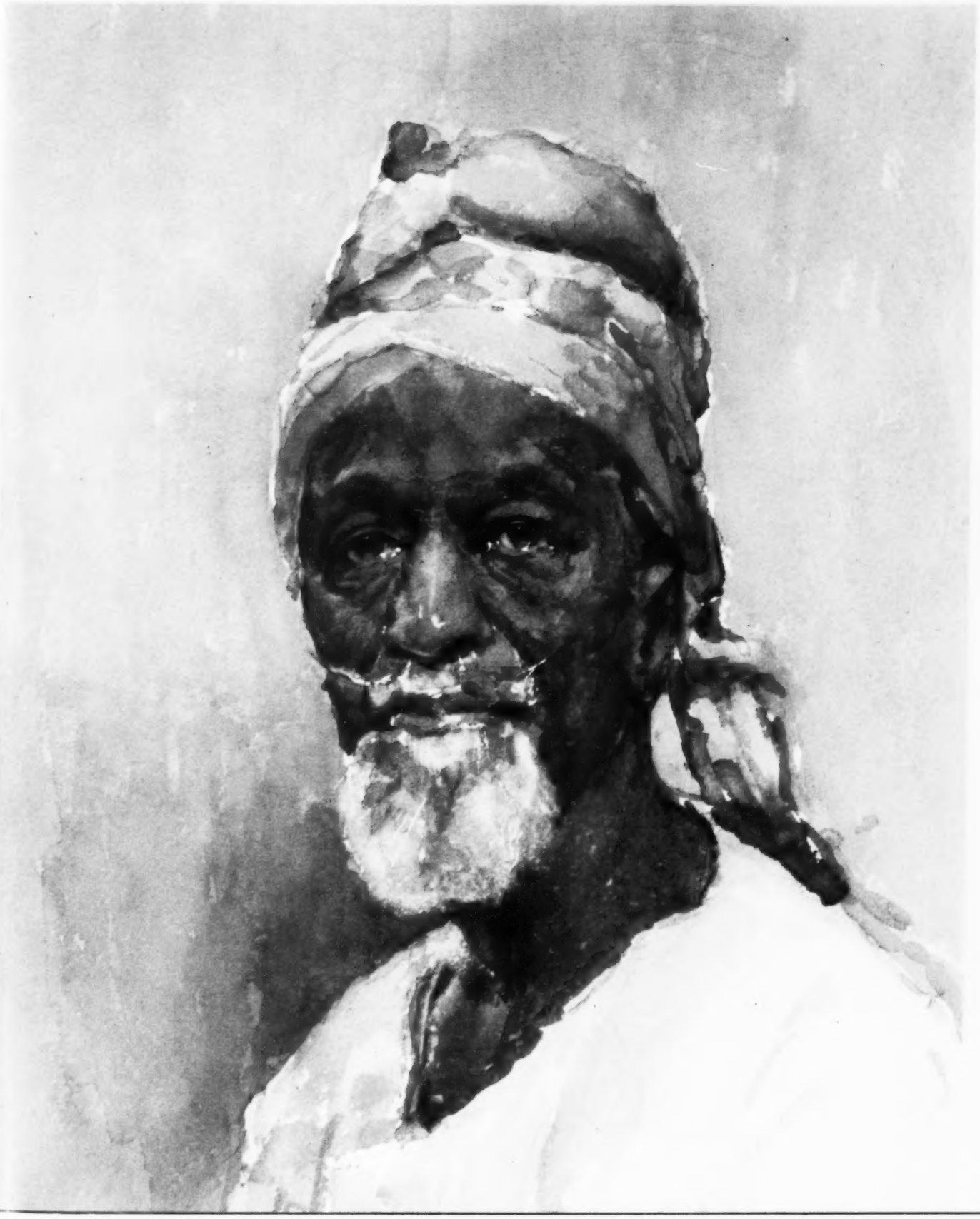
In the first place, during a period of scarcity, odd sized books and pieces should be shunned, and sizes selected which will cut to the maximum advantage out of stock sizes of paper. Elementary as this warning may seem, it has often been disregarded. S. D. Warren & Co. have brought out this point very well on page 35 of their *Estimator's Book*. We quote:

"The differential for special sizes in lots of 2000 to 5000 pounds is 10%. In many cases the adding of this differential makes a special size order cost more than the same number of sheets in the next larger standard size. The following table will be of help to you in arriving at the advantageous size to buy."

Standard 38x50 Standard 36x48	If you require a special size in between these two buy 38x50. For example: 36½x48½ with the 10% differential added will cost more than 38x50.
Standard 35x45 Standard 32x44	The standard size 36x48 is cheaper than a special size 35½x45½. If you need 32½x44½ you can buy 35x45 for the same price or slightly less. If you require a special size 29x44 you can buy 32x44 for the same price. 29½x44 will cost more than 32x44.
Standard 28x44 Standard 28x42	The 28x44 is cheaper than any special size down to the next standard 28x42. A special size 26½x41 will cost as much as the standard size 28x42. For sizes between 26½x41 and 28x42 buy the 28x42 as a saving in money.
Standard 26x40 Standard 25x38 Standard 24x36	Any special size in between 26x40 and 25x38 will cost more than 26x40. Buy 26x40 as a saving. Buy the 25x38 size as more economical than any size in between these two.

Another means to economy arises from the discarding of bleed pages. "Not only has the typographical fad of bleed pages," said one commentator recently, "increased the wastes in cutting and trimming, and thrown the dimensional proportions of press sheets and mill sheets 'out of kilter,' but because of the irregular increase

(*Turn to page 93*)



Painting by Nicola Veronica

Observe the Faithfulness of Detail in Each Color Wash

Water Color Reproduction in Four Colors—133 Line Halftone Screen

RAYNER LITHOGRAPHING CO., 2054 W. LAKE STREET, CHICAGO

ESTABLISHED 1906

The illustration

on the reverse side of this page was lithographed by

RAYNER LITHOGRAPHING CO.

OF CHICAGO

from original plates made by

KNOP & BRAUER, INC.

OF MILWAUKEE

by the Dot Etch Method on film furnished by the

HAMMER DRY PLATE *and* FILM CO., INC.

OF ST. LOUIS

and lithographed from deep etch press plates in 4 colors

Technical news and Literature

This is a regular department conducted by Mr. Martin, of the Harold M Pitman Company, in which technical books, articles, papers and similar literature of interest to the lithographic industry are reviewed and discussed. It is intended as a supplement to the Lithographic Abstracts prepared by the Research Department of the Lithographic Technical Foundation, Inc.

BY KENNETH W. MARTIN

Composition for use in Printing. Charles O. Beckley assigned to Western Electric Company. U. S. Patent No. 2-240-486, Mar. 4, 1941.

Coating Compositions for Lithograph plates and method of applying the same. Arnold L. Ayers assigned to Albert E. Tyler. U. S. Patent No. 2-233-573, May 6, 1941.

THESE two patents, both issued at approximately the same time, indicate a growing interest in lithographic problems. Both patents refer to the use of unusual mixtures of chemicals for the primary purpose of keeping the non-printing parts of the plate clean with a minimum of water.

Beckley's patent refers to a dampening solution for use on the press and suggests the following as a characteristic composition:

Gum arabic	.017 per cent by weight
Phosphoric acid	.010 per cent by weight
Ammonium bichromate	.016 per cent by weight
Magnesium nitrate	.060 per cent by weight
Dioctyl ester of sodium sulphosuccinate	.006 per cent by weight
Water	Balance

The patent further states that the pH of the solution should be carried at values between 3.5 and 5.0 with a value of 3.8 recommended for best results. From the extremely small quantities of the various chemicals used it is evident that this composition is intended for use in the press fountain without any further dilution with water.

The claim is made that plates using

this mixture will run cleaner with less water and that filling of the heavy parts of the work is largely eliminated. As a result, finer grains can be used with less trouble on the press.

The use of a mixture of phosphoric acid, ammonium bichromate, and magnesium nitrate in combination with gum arabic as a fountain solution for zinc plates is almost standard practice. The compound dioctyl ester of sodium sulpho-succinate is chemically inert compared to the other ingredients of the formula. It should act as a wetting agent to insure a continuous film of water over the entire plate. It is probably true that only a very little water is required on a plate to keep it printing clean. On the other hand, if the film is broken or if the amount of water fed to the dampeners is reduced to a point where any part of the plate may get dry, trouble results. If Mr. Beckley's claim will hold water, he may well have something.

Ayers' invention claims to accomplish the same result as is obtained by the use of the composition of Beckley and in addition the life of an albumin plate is greatly extended. It is claimed that this new coating solution may be applied either before, during, or after the formation of the albumin image, although no explanation is given as to how to go about applying a coating of anything to the plate during the formation of the albumin image.

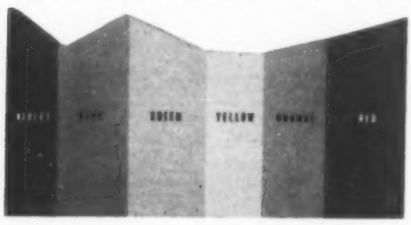
The coating to be applied, presumably before the plate has been coated or after the print has been developed, consists of a mixture of 60 c. c. of water and 40 c. c. of 60° Be. water glass (sodium silicate). Cream of tartar may be added to the water glass solution in which case the formula suggested would be 30 grains of cream of tartar with 70 c. c. of water and 30 c. c. of the 60° Be. water glass. These solutions may be applied to the plate exactly as if it were being gummed up. When properly applied it is claimed that it is unnecessary to use any acid in the press dampening water.

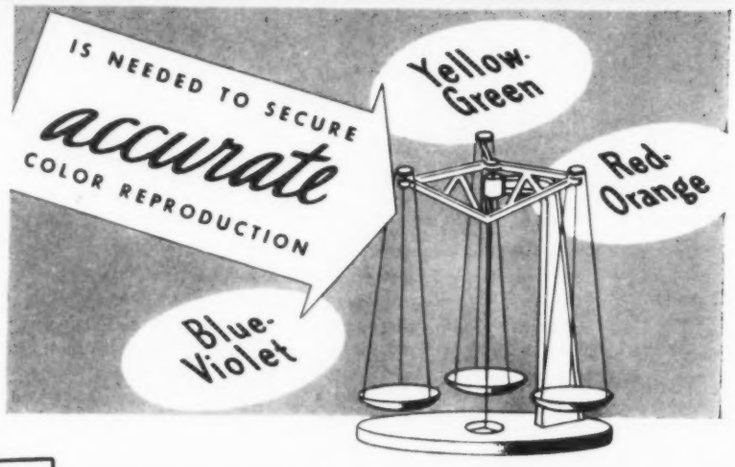
As far as can be determined from the patent, it would appear that the film of sodium silicate is much more sensitive to water than the zinc itself. The film formed may be sufficiently thick to protect the image from any abrasive action of the rollers. Despite the fact that no mention is made of the use of gum arabic, the claim is made that by use of the silicate formula a plate may be rolled up solid and then cleaned by merely dampening with water.

A 3-Way BALANCE
OF THE PRIMARY COLORS

● The snow white light from "National" White Flame Photographic carbons consists of these primary colors in essentially equal intensities. Use of this properly balanced light at the copy board simplifies the production of color separation negatives of correct density.

COLOR DISTRIBUTION OF LIGHT





FOR COLOR PROCESS PLATES OF HIGHEST QUALITY AT MINIMUM COST

USE NATIONAL TRADE-MARK WHITE FLAME PHOTOGRAPHIC CARBONS

NATIONAL CARBON COMPANY, INC.
UNIT OF UNION CARBIDE AND CARBON CORPORATION
UCC
CARBON SALES DIVISION, CLEVELAND, O. GENERAL OFFICES: 30 E. 42ND ST., NEW YORK, N.Y.
BRANCH SALES OFFICES
NEW YORK - PITTSBURGH - CHICAGO - ST. LOUIS - SAN FRANCISCO

GOOD INKS MAKE WISHES COME TRUE

Consistently good press performance has made Sinclair & Carroll inks the choice of leading lithographers throughout the country. Their good color strength; their ideal lithographing properties and all around reliability at press time live up to your demands and expectations.

From laboratory formulation to finished product, Sinclair & Carroll inks are carefully tested to insure your complete satisfaction on the job.

Use a Sinclair & Carroll ink on your next job. Wherever you are, there's an ink to fit your requirements and experienced men to serve you.

SINCLAIR & CARROLL CO., Inc.
LITHO INKS OFFSET

591 ELEVENTH AVENUE, Tel. BRyant 9-3566
NEW YORK CITY

CHICAGO
440 W. Superior St.
Tel. Sup. 3481

LOS ANGELES
417 E. Pico St.
Tel. Prospect 7296

SAN FRANCISCO
345 Battery St.
Tel. Garfield 5834

NEW ORLEANS
518 Natchez St.
Tel. Main 4421

IN AND ABOUT THE TRADE

Fisher Modernizes Plant

W. H. Fisher Co., printing and litho firm, Greensboro, N. C., is modernizing its plant at 110 East Gaston Street and will be temporarily located at 112 North Elm Street until work on the building is completed.

•

Change to Partnership

W. A. Taylor & Co., Inc., manufacturers of pH control equipment, Baltimore, have dissolved their corporation, according to an announcement issued last month. In the future the company will operate as a partnership consisting of W. A. Taylor and C. E. Miller. In all other respects the business will be conducted as previously.

•

Crown Can Advances Swartz

Richard P. Swartz, vice-president of Crown Can Co., Philadelphia, has been promoted to the special post of assistant to the president, it was announced last month. Mr. Swartz has been with the company for over twenty years. He began in the Baltimore machine shops as an assistant foreman and, after the organization of the Crown Can Co. in Philadelphia, he was transferred to that plant where he became vice-president in charge of production at all of the company's can manufacturing plants.

•

OPM Appoints Printing Committee

The Pulp and Paper Branch of the Office of Production Management announced last month the names of the three final Divisional Committees which later will be subcommittees of an overall Pulp and Paper Defense Industry Advisory Committee. The three divisions are Pulp, Paper and Paperboard; Paper Products; and Printing and Publishing. Among those appointed to the Printing and Publishing Divisional Committee were Leslie H. Jackson, vice-president and treasurer of Stecher-Traung Lithograph Corp., Rochester, N. Y.; Edwin Lennox, president of American Colortype Co., Chicago; Elmer G. Voigt, vice-president of Western Printing & Lithographing Co., Racine, Wis.; and Lee C. Werden, vice-president of Cuneo Eastern Press, Philadelphia.

LESLIE H. JACKSON
. . . of Stecher-Traung Lithograph Corp., who has been named by OPM to Pulp and Paper Defense Industry Advisory Committee.

•

Widow of Lithographer Dies

Mrs. Mary Elizabeth Trautmann, widow of Ralph Trautmann who was the founder of Trautmann, Bailey & Blampey, New York litho concern, died last month, Mrs. Trautmann was prominent in civic and charitable work for over 40 years and was the last surviving founder and president of the Women's Health Protective Association.

•

Protest Tax on Billboards

The Outdoor Advertising Association of America, and the various sectional associations whose members own and operate poster and display facilities throughout the United States have expressed their opposition to the provisions of Section 3269, of the Revenue Act of 1941 bill, which calls for a tax on outdoor advertising. In a joint statement issued last month, they point out that a direct tax on any form of advertising is uneconomic and inadvisable since such tax hampers the distribution of products and, therefore, slows down production.

•

Charles Staib Dies

Charles Staib, treasurer of the David Weils Sons Lithographic Co., Brooklyn, died last month. He had been connected with the company for more than fifty years.

•

Move Hunt Chicago Office

Philip A. Hunt Co., chemical manufacturer, has announced the removal of its Chicago offices and warehouse to new quarters at 2108-18 West Fullerton Avenue. The Chicago branch was formerly located at 1076 West Division Street.

•

Elect Varden of Agfa

Lloyd E. Varden, of Agfa Ansco, Binghamton, N. Y., was elected chairman of the Binghamton Technical Section of the Photographic Society of America at its organization meeting held recently in that city. The group is composed mainly of technicians and engineers in the photographic industry.

•

PAC to Discuss "Packaging"

The Printing and Advertising Clinics, sponsored by General Printing Ink Corp., New York, will devote a session to "Packaging," as the first clinic of the fall season. This will be held on October 15th at the New York Trade School, 312 East 67th Street, New York. C. W. Browne, editor of *Modern Packaging*, has been appointed program chairman and will give the opening talk on "Function of Packaging." Other speakers and topics to be heard are: "Structure and Materials," by C. A. Southwick, Jr., packaging engineer

Rope in
THE
BETTER
PRINTING
JOBS *with*
HALFTONE
Offset

The quality appeals! The price appeals! Even the ***name*** appeals! . . . Midway between offset enamel and regular offset, Halftone Offset won't shrink, stretch, strain, curl!

Dull or gloss . . . no mottling.

Chillicothe-made and Chillicothe-guaranteed insure satisfaction for you . . . for your customer!

GREETING CARD PAPETERIE
Embossed and Decorated

Save Money by Shipping via Miami Valley Shippers' Assn.

Makers of Quality Offset, Lithograph and Book Papers

The **CHILLICOTHE** *Paper*
COMPANY
EXECUTIVE OFFICES AND MILLS
CHILLICOTHE, OHIO

A BUY WORD FOR HIGH-GRADE PAPERS

LITHOGRAPHERS
Everywhere Depend On Us
For

GRAINING BALLS

AGSCO GRAINING GRIT

ABRASIVES

And All Other

PLATE GRAINING SUPPLIES

of General Foods Corp.; "Reproduction Problems," by William H. Walters, vice-president of U. S. Printing & Lithograph Co.; "Production," by H. F. Brownell, superintendent of the manufacturing division, McKesson & Robbins; and "Merchandising the Package," by John H. Breiel, manager of public relations, N. W. Ayer & Son.

•

U. S. Printing Reports Gain

United States Printing & Lithograph Co., Cincinnati, has announced net earnings of $253,577 for the first six months of 1941 as compared to $125,329 for the same period last year. The company also declared a dividend of $1.50 on the $50 par value 6% preferred stock. This is the first dividend on preferred stock declared since 1931.

•

LTF Offers New Courses

In addition to its usual educational offerings for local consumption—some 30 courses—the Lithographic Technical Foundation announces three new courses: The Chemistry of Plate-making, The Chemistry of Photography and The Science of Plate-making Procedures. "This increased emphasis upon the scientific," says Dr. D. J. MacDonald, "is by no means at the expense of the practical. We believe as firmly as ever that the best interests of the industry require that ways and means be found to get those who represent the practical and the theoretical, respectively, to regard themselves as team mates. And since there is no better way of bringing about this desired end than by having first class craftsmen with the necessary theoretical knowledge serve as our instructors we shall follow that procedure."

The extension courses, initiated in recent years, to meet the needs of lithographic employees in outlying centers will be continued. Preliminary arrangements have already been made for continuing this extension program in Baltimore and Hartford. Attention is called to the Sales Courses which have been especially designed to meet the needs not only of salesmen but also of sales promotion executives.

Sponsor Detroit Exhibit

The Typothetae-Franklin Association of Detroit will sponsor the Michigan Commercial Printing Exhibit for the American Institute of Graphic Arts, it was announced last month. Printers and lithographers are invited to submit specimens of any reproduction process for judging. The best of those submitted will be sent to New York for the National Exhibit and subsequently throughout the United States as a travelling exhibition.

•

Employees Hold Golf Tourney

Golfing fans among the employees of Magill-Weinsheimer Co., Chicago, held their annual tournament and picnic at Sportsman's Country Club, near Dundee, Ill., last month. Some fifty persons participated in the contest, supported by a large gallery on the sidelines.

•

Rossotti Litho Moves

Rossotti Lithographing Co., formerly located at 1811 Bergen Turnpike, North Bergen, N. J., has moved to new quarters at 8511 Tonnelle Avenue.

Anniversary dinner held recently on the coast in honor of Louis Traung's 75th birthday. Inset, Mr. Traung surrounded by congratulatory messages and flowers.

RELIABLE LITHOGRAPHIC PLATE CO., Inc.

The Pioneer Plate Grainers of America

ALL PLATES

INCLUDING THOSE REGRAINED FOR MULTILITH

ARE MARBLE GRAINED

"RELIABLE" is far more than just part of our name. It means to our customers that our plates can be depended on to give first-class results because from start to finish the graining is handled by experts of long experience. Our plates are made right to work right—*they are reliable!*

We carry a full supply of Zinc and Aluminum Sheets for Offset, Rotaprint Presses, in fact for all the lithograph trade.

MILL SELECTED METAL USED EXCLUSIVELY

(MADE IN U.S.A.)

A trial order should "sell" you our services and products.

RELIABLE LITHOGRAPHIC PLATE CO., Inc.

INCORPORATED 1916

17-27 Vandewater St. *and* 45 Rose St., New York, N. Y. • Phone: BEekman 3-4542 3-4531

This Label is Your Guarantee

Whenever a lithographic black ink is used bearing the label ECLIPSE DEEP-SET BLACK the resulting finished job will be a lithographed product of the highest quality. For ECLIPSE is a guarantee of quality and top-notch performance. The progressive lithographer of today is not content with anything but the best. That's why he invariably selects ECLIPSE DEEP-SET BLACK on *all his jobs*. Examine the labels on the ink shelf in the average pressroom—and you'll always find ECLIPSE prominently on display. It's a lithographic black ink you can bank on.

ECLIPSE

DEEP-SET

BLACK

TRY ECLIPSE ON YOUR NEXT RUN AND BE CONVINCED

GAETJENS, BERGER & WIRTH, Inc.

35 York St., Brooklyn, N. Y. 538 S. Clark St., Chicago, Ill.

MANUFACTURERS OF PRINTING AND LITHO INKS, VARNISHES AND DRYERS

Hold Point-of-Sale Symposium

The second annual point-of-sale advertising symposium, sponsored by the National Food Distributors' Association, was a feature of the group's annual convention held in Chicago last month. The symposium was conducted by Porter F. Leach, merchandising and advertising consultant to the association. Speakers included Edward T. Sajous, executive secretary, Point-of-Purchase Institute; Lincoln Jones, consumer market counsel, New York; Clarence T. Fairbanks, president, Edwards and Deutsch Lithographing Co.; Price Gilbert, Jr., advertising manager, Coca-Cola Co.; Edward Lyman Bill, editor, *Grocergraphic;* and G. D. Crane, editor and publisher of *Advertising Age*. Various types of point-of-purchase display material submitted by lithographers, printers and food manufacturers were exhibited in connection with the symposium. Certificates of award for the best window, counter, floor and general interior grocery displays were presented by a judging committee composed of the guest speakers.

•

Point-of-sale advertising exhibits at the recent National Food Distributors' Convention held in Chicago, August 20-23. While this was the Association's 14th Annual Convention it was the first time that it held a point-of-purchase exhibit and gave awards for winning store display material. The exhibit displayed entries from advertisers from all parts of the country and was so successful that the Association has decided to make it an annual affair.

Printing Ranks 10th in Safety

Printing was the nation's tenth safest industry in 1940, according to National Safety Council figures, issued recently, covering frequency of accidents in thirty different industrial fields. For each 1,000,000 manhours of time worked by printers last year the Council's computations show there were 8.81 accidents. Contrasted with an average accident frequency rate of 12.52 for the thirty industries, this rating is not considered high. In 1939, according to the council's records, printing ranked as the nation's third safest industry. However, the figures covering severity of casualities suffered show a rate of 0.50 for 1939 while for 1940 the severity rate was only 0.41, an improvement which enabled the printing industry to climb from fourth to third place on the severity basis. To suggest how safe a printing plant might be, the Safety Council cites the Canadian Bank Note Co., of Ottawa, Can., whose employees worked 2,716,151 hours without an accident. This record has been unrivalled by any other printing plant for several years.

•

Miehle Receives Navy Award

Miehle Printing Press & Manufacturing Co., Chicago, was one of fourteen industrial concerns to receive the Navy's "E" award for outstanding performance in the production of Naval Ordnance Material for the National Defense Program last month. The award entitles the company to fly from its plant flagstaff the Navy Bureau of Ordnance flag accompanied by the "E" pennant.

•

DMAA to Hear Harford Powel

Harford Powel, Director of Information, United States Treasury, will be among the featured speakers at the International Convention of the Direct Mail Advertising Association to be held in Montreal, Canada, beginning October 8th. Mr. Powel will discuss how the use of modern advertising methods has helped to sell United States defense bonds, and will provide some behind-the-scenes details as to how the campaign was conducted. The nature and purposes of advertising under war-time conditions will also be discussed by a number of speakers from both Canada and the United States. L. Rohe Walter, president of the DMAA, will deliver the keynote address at the convention.

•

Merck & Co. Appoint Furman

Merck & Co., Rahway, N. J., have announced the appointment of G. S. Furman as manager of their New York office. He will succeed Gustave Bayer who retired recently after 46 years of service. Mr. Furman has been assistant manager of the New York office for the past four years.

A trial will prove the superiority of . . . .

OKAY

DEVELOPING INK — A time tested material with every quality a developing ink should have—also made for deep etch plates.

OPAQUE — The finest negative opaque on the market—consistency and satisfaction assured.

MASKING OPAQUE — A water soluble opaque for masking on celluloid sheets—smooth flowing and non-sticking in humid weather.

REX OPAQUE (RED) — An opaque for paper films and glass, will not chip or crack, and dries rapidly.

ALL OF THESE PHOTO-OFFSET SPECIALTIES ARE MANUFACTURED AND DISTRIBUTED ONLY BY

F. G. OKIE, Inc.

247 S. THIRD ST., PHILA., PA.

or their agents. Also manufacturers of high-grade photo-offset inks, fine printing inks, compounds, etc.

WANT REAL *Color Separation* VALUE?

Use ILFORD *"Pan"* PLATES

If your shop is enjoying the ever increasing amount of color "copy" YOU should investigate ILFORD PANCHROMATIC PLATES today!

- HIGHER UNIFORMITY
- LONGER LIFE
- BETTER COLOR SEPARATION VALUE
- BETTER QUALITY EMULSION
- CONTRAST ADAPTABILITY TO OFFSET PROCESS

NORMAN-WILLETS

Eastern Depot—
10 WEST 33d STREET, NEW YORK, N. Y.

Mid-Western Depot—
316 W. WASHINGTON STREET, CHICAGO, ILL.

Term Ends for Kelly School

The pressroom school operated by E. J. Kelly Co., manufacturer of printing and litho inks, Kalamazoo, Mich., recently completed its current season. All of the company's formulators and many other employees attended. The classes were held in the Kelly laboratories which are equipped with complete facilities for the various printing processes. Under the supervision of experienced printers, the employees are taught how to operate the presses and are given an opportunity to observe the peculiarities of various types of inks and how they perform under different conditions.

•

Devine Announces New Set-up

John F. Devine, general manager of the Fuchs & Lang Manufacturing Co., division of General Printing Ink Corp., New York, has announced the following appointments: Robert J. Butler, general sales manager; Walter H. Lynch, assistant general manager of Lithographic Supplies Division; and Edward J. Halligan, assistant general manager of the Ink Division.

Mr. Butler has been connected with various laboratory and research activities during his many years with Fuchs & Lang. Prior to his present appointment he was Technical Service Manager. He has frequently given lectures before Lithographic Technical Foundation classes, and other trade groups. Mr. Lynch has been associated with the company for thirty-two years and has been active in practically every department of the business. Mr. Halligan was formerly manager of the ink department and had been connected with that division for over seventeen years.

•

Printers Must Report Ticket Work

Recent fines totalling $2,600 imposed upon several New York ticket brokers for failure to stamp actual sales prices on the backs of tickets they sold, calls attention to the amusement tax law and regulations for the printing of tickets of admission. The law states that a printer is responsible for reporting to the Collector of Internal Revenue the tickets of admission he has printed for a customer. In his notice he must state the name and address of the person to whom the tickets are furnished and the number of tickets furnished, and if the tickets are serially numbered, he must also include a statement as to such serial numbers. This report should be accompanied by proofs or sample copies of the tickets themselves. This regulation applies only to tickets of admission for which a charge of 21 cents or more is made. Complete information covering this law is given in U. S. Treasury Department, Bureau of Internal Revenue, Regulations 43, entitled "Taxes on Admissions, Dues and Initiation Fees," which may be obtained from a local revenue office or from the Superintendent of Documents, Washington, D. C., for ten cents.

•

Champion Shows Increased Income

Champion Paper & Fibre Co., Hamilton, Ohio, has announced a net income of $2,379,659, which is equal to $3.37 a share of common stock, for the fiscal year ended April 27th, in the annual report issued last month. This compares with $1,731,-937 or $2.24 a share for 1940. Net sales for the year totaled $29,743,122, as compared with $23,406,261 in 1940. The company contemplates retiring $640,000 in outstanding debentures, of which $275,000 is of the 1935 issue and $365,000 of the 1938 issue. This will leave $8,660,-000 of debentures outstanding. Sales and tonnage in the 1941 fiscal year were the largest in the 48-year history of the company.

•

Open Chicago Bowling Season

The Chicago Craftsmen's Bowling League opened its 1941-42 bowling season on September 4. The offset field was represented by a team from the Workman Mfg. Co., captained by C. Karas, and the "Cen-velopes" team of the Central Envelope and Litho Co., headed by M. DeTolve. Harold E. Sanger, director of the Chicago School of Printing and Lithography was captain of a team of "Teachers." Six of the twenty teams in this year's league represent lithographic ink houses. These include Martin Driscoll & Co., Sigmund-Ullman Co., Bowers Printing Ink Co., McCutcheon Bros. & Quality, Grady & Neary Ink Co., and Sinclair & Valentine Co. E. G. Ryan & Co. also have a team, captained by Mr. Ryan, and H. L. Ditzler, president of American Roller Co., heads his concern's team.

•

Hold Annual Picnic

Employees of Peerless Lithographing Co., Chicago, together with their families and friends held their annual picnic at Hoffman's Grove, in the Cook County Forest Preserves, last month. More than 300 persons attended. Features of the outing were a ball game, races, stunts for the children and a big family lunch. The committee in charge of the affair included Art Traeger of the sales department, and Al Toth, of the plate department.

•

J. W. Westphal Dies

Julius W. Westphal, 73, founder and chairman of the board of the Metal Litho Corp., Brooklyn, died last month. Born in Germany, Mr. Westphal came to America alone at the age of 12 and after a few years of schooling apprenticed himself with a firm of lithographers. Before founding his own company in 1915, he held responsible positions with lithographers in Los Angeles, Denver, Boston and Wilkes-Barre. Mr. Westphal was responsible for many of the pioneering developments in improved types of equipment used in the metal decorating industry.

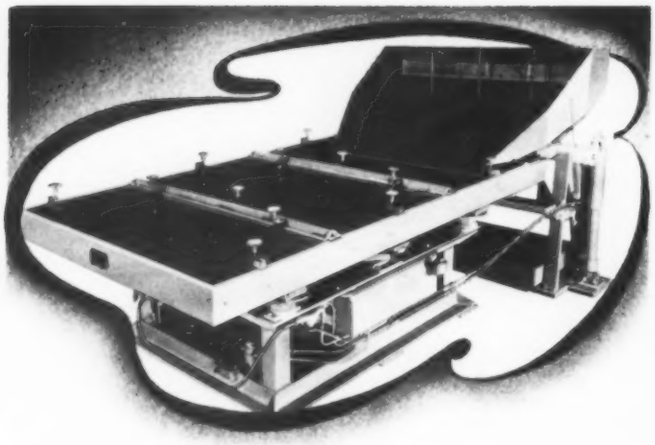
•

E. G. Ryan Becomes Grandfather

E. G. Ryan, head of E. G. Ryan & Co., Chicago agents for the Webendorfer division of A. T. F., became a grandfather August 8, when his daughter, Mrs. Clark Snyder gave birth to a baby girl. Mr. Snyder is an employee of the Ryan Company.

•

Ronald I. Drake, of Champion Paper & Fibre Co., Hamilton, Ohio, addressed the Detroit Club of Printing House Craftsmen at their September meeting on "Printing and Paper Troubles."



ZENITH GRAINER

equipped with POWER DRIVEN Hydraulic Pump for tilting Marble dumper and Tub. The only gearless single Eccentric graining machine. Simple lubrication, Dynamically balanced Frame.

Beats them all!

Because of these exclusive features, ZENITH GRAINERS are recognized as standard graining equipment throughout the trade. Noise has been reduced to a mere purr and, most important, wear has been cut fully 80 per cent on all ZENITH GRAINERS. Bolting down is unnecessary because the DYNAMICALLY BALANCED FRAME absorbs all vibration. These are only a few of the ZENITH exclusive features. Most important of all is the fact that with ZENITH, plates can be grained QUICKER and BETTER! It now takes only five seconds to raise or lower the dumper! The power driven hydraulic pump does all the work of tilting and lifting! When you think of grainers, think of the ZARKIN ZENITH GRAINER. *It's a household word for dependability and quick economical service throughout the lithographic industry.*

REBUILT OFFSET PRESSES

Standard makes of offset presses Rebuilt from the floor up, all worn parts replaced with new. Presses delivered, guaranteed equal to new, complete with Electrical Equipment. The prices mean a great saving to you in every way.

Write for Descriptive Literature

ZARKIN MACHINE COMPANY, INC.

335 East 27th Street • New York City, N. Y.

When is BLACK not BLACK?

•

THE answer, of course, as some lithographers occasionally find out to their sorrow, is that "blacks are not black when they are grey." No other process puts the same demands on black, or colored inks either, that the lithographic process imposes. The lithographer is working with exceedingly fine film thicknesses in his lithographic inks, and if there is any tendency toward greyness in the blacks, or any weakness of strength in the colors, it is shown up all too sharply on the press.

INCIDENTALLY, there is no one factor that is doing more to hold back the expansion of lithography today than the belief on the part of some printing buyers that "tattle tale grey" is a necessary and integral part of the lithographic process. It isn't if your selection of a source of supply for inks is made with adequate care. Your blacks can be just as jet, and your colors just as strong and brilliant, if your ink supplier knows his business.

HERE at Bensing Bros. & Deeney we have solved the ink problems of many a supplier. A trial of our Crusader Offset Black No. 403 will convince you that we know our business where lithographic inks are concerned.

•

BENSING BROS. & DEENEY

401 N. Broad St. Philadelphia, Pa.

538 S. Wells St., Chicago, Ill.

Survey Printing Salesmen

The average printing salesman sold $28,000 worth of business during 1938 at a cost of 11 per cent of his sales volume, according to a survey report entitled "Compensating Printing Salesmen," recently issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Co., New York. The figures also showed net earnings of $2,872 for the average salesman during the year. Findings were based on data obtained from 121 companies employing a total of 824 salesmen.

•

ROBERT C. von MAUR
. . . joins Champion Paper & Fibre Co.'s St. Louis Office.

Chicago Group Aids U. S. O.

Contributions from Chicago graphic arts concerns to the United Service Organizations drive in that city totalled $11,195.98, up to August 15, according to an announcement from U. S. O. headquarters. A quota of $16,000 had been assigned to the graphic arts group, but the total amount collected came from only sixty-one printing, lithographing and engraving plants out of a total of over 2,500. Forty per cent of the $11,195.98 came from two concerns, R. R. Donnelley & Sons Co. who topped the list with a contribution of $2,278 from employees and the company, and W. F. Hall Printing Co., a letterpress concern, which contributed $2,012.75. Cuneo Press, Inc., was third largest contributor with $1228. Lithographers on the list included I. S. Berlin Printing and Lithographing Co., Magill-Weinsheimer Co. and the Regensteiner Corp. Edwin Lennox, Sr., president of American Colortype Co., was chairman of the Graphic Arts Committee and he appointed his company's vice-president, Harry L. Williams, as his assistant.

•

Litho House Wins Sorg Award

The Sorg Paper Co., Middletown, Ohio, has announced that the Aull Award made semi-anually to printers and lithographers for prize-winning books, broadsides, letterheads, business forms, or any other type or kind of material printed or lithographed on any Sorg paper, for the first half of 1941 goes to Oval and Koster, lithographers of Indianapolis, who will receive a $75.00 cash prize. Entries for the contest for the last half of the year will be accepted until January 1, 1942.

•

Complete 4th Intensive Course

August 29th was final examination day for those taking the Lithographic Technical Foundation's Intensive Course in the Fundamentals of Lithography. One-half of the class secured additional instruction at the Eastman Kodak Co., Rochester, New York, during the following week.

Outstanding features of the Summer's work were the following lectures and visits:

LECTURES

"The Three Major Printing Methods" by Fulton MacArthur, Reynolds Metals Co.; "Scientific Aspects of Black-and-White Photography as Applied to Lithography" by Richard W. Gardner, Eastman Kodak Co.; "Technical Features of Camera Construction" by Michael Annick, Rutherford Machinery Co.; "Scientific Aspects of Color Photography as Applied to Lithography" by John McMaster, Eastman Kodak Company; "Some Management Problems in the Lithographic Industry" by Alfred Rossotti, Rossotti Litho. Company; "Press Design" by Wm. Eckhart, R. Hoe & Company; "Technical Features of Dry Color Making as Related to Lithography" by Seymour L. Karpeles, Imperial Paper & Color Co.; "Press Construction and Care" by A. Stull Harris, Harris-Seybold-Potter Co.; "Technical Features of Blanket Manufacture and Care" by R. R. Lewis, Vulcan Proofing Co.; "Paper" by Wm. R. Maull, The Mead Corp.; "Varnishes, Inks, Etc." by Dr. Jos. Mattiello, Hilo Varnish Co.; A series of technical lectures by Paul W. Dorst, Technical Staff, Lithographic Technical Foundation, Inc.

VISITS

Brett Litho. Company, Long Island City, N. Y.; Jersey City Printing Co., Jersey City, N. J.; United States Prtg. & Litho. Co., Brooklyn, N. Y.; Interchemical Corp., Research Laboratory, New York City; Knudsen Process Agency, New York; Swart-Reichel, Inc., New York; Sinclair & Valentine Co., New York; Zeese-Wilkinson Co., Long Island City, N. Y.; Vulcan Proofing Co., Brooklyn, N. Y.; Dill & Collins Co., Philadelphia, Pa.; Curtis Publishing Co., Philadelphia, Pa.; Intaprint Division, Miehle Prtg. Press & Mfg. Co., Long Island City, N. Y.

•

R. S. CROWELL
. . . new sales manager for Geo. H. Morrill Co., division of GPI.

Subway Benefits Litho Plant

Construction of Chicago's subway has presented an unexpected benefit to Magill-Weinsheimer Co., Chicago lithographer. To provide space where the big underground bore could come to the surface, it was necessary to wreck a number of old warehouse buildings at the rear of the Magill-Weinsheimer plant. As a result, the 10-story modern M-W building now enjoys unobstructed daylight on all sides. Light bills are expected to show a decrease and employees are highly appreciative of the change.

•

Issues Mid-Year Calendar

McCandlish Lithograph Corp., Philadelphia, distributed its handsome new calendar for August 1941-42 last month. The subject is a Gloucester harbor scene painted by Gordon Grant and lithographed in full color.

Defender

for the Quality you can depend on

All Defender Products—for lithographic work, photo-copying, professional and amateur photography—are manufactured to a single standard of laboratory controlled quality. To all in the Graphic Arts who work with sensitized materials these Defender Products stand for complete dependability.

DEFENDER LITHO TRANSPARENT—an orthochromatic emulsion coated on a non-halation semi-transparent water-proof paper base. For economy in lithographic line negative work.

DEFENDER LITHO FILM—an orthochromatic emulsion coated on a non-halation safety base—with high resolving power and contrast for efficient halftone and line reproduction.

DEFENDER LITHO NEGATIVE PAPER—orthochromatic paper of particular interest to the photo-lithographer.

DEFENDER LITHO PLATES—orthochromatic, non-halation backed for high contrast negatives requiring absolute register.

DEFENDER LITHO DEVELOPER 7-D—Available in convenient ready-to-mix form.

Write Graphic Arts Department

DEFENDER PHOTO SUPPLY CO., INC. · ROCHESTER, N. Y.

YOU, TOO

can get longer life from your plates and better quality reproduction.

IF

you come to us for your plate graining.

When many of our customers first came to us for their graining requirements, they were greatly surprised with the longer life and better quality reproduction they obtained from plates grained by our organization. Now they accept these results as a matter of course because our rigid standards assure that every plate is exactly right.

Our modern equipment, up-to-date methods and highly skilled personnel result in a finer and deeper grain, the secret of longer life and better reproductions. Volume production enables us to do superior work at no higher prices than you pay for the average regrain job.

Start to enjoy the advantages of our service. Write for a quotation on your next graining job.

ILLINOIS PLATE GRAINING CO.

JAMES S. KIPER BLDG. **CHICAGO** 913 W. VAN BUREN ST.

NEW EQUIPMENT AND BULLETINS

Eastman Introduces Color Prints

Eastman Kodak Co., Rochester, N. Y., has just announced a new development in color photography with the introduction of Kotavachrome Professional Prints. By means of a new color print process, the Kotavachrome Prints are reproduced from Kodachrome film transparencies on a pigmented cellulose acetate. The prints contain dyes which, in common with those used in printers' inks, may in time change. The company suggests, therefore, that they should not be exposed for long to direct sunlight. Kotavachrome Professional Prints can be made up to 30 x 40 inches in size and will be made from all sizes of Kodachrome film transparencies except 45 x 107mm., 6 x 13cm., and 11 x 14 inches. The maximum enlargement from any transparency is limited to six diameters. Prices for the new Kotavachrome Prints are available on request.

•

Alcoa Issues Service Bulletin

The Aluminum Company of America, Pittsburgh, has just issued Aluminum Service Bulletin No. 1, the first of a series designed to give national defense industries the latest technical information on aluminum. The first issue contains a list of 100 selected articles and booklets by the company's engineers on subjects of special interest to manufacturers of defense materials.

•

Describes Watermark Process

Charles Drury Jacobs, South Orange, N. J., has just issued a leaflet describing his special watermarking process which is based upon the use of a patented interchangeable dandy roll. The covers of this roll, carrying the watermark designs, are sleeved onto the body roll and these covers permit the making of three different orders at one running. According to the leaflet, this process enables the company to offer individually watermarked papers in smaller quantities than were heretofore possible. Complete specifications and prices are given. Copies available on request.

•

Introduces "Litho-Pencil"

N. C. Sorensen, Kansas City, Mo., has just announced a new "Litho-Pencil" designed for use by pressmen, platemakers and artists in making corrections on lithographic plates. It can be used for filling in solids and broken type and, if used with a broad or flat point, will produce a stipple or screen effect. Features of the new pencil, according to the manufacturer, are that it will not damage plates by cutting too deeply and marks made with the pencil will come out readily in regraining.

•

New Film Cleaner

Merix Photo Co., Chicago, has just announced the new Merix Special Film Cleaner for Kodachrome and color film. The new cleaner is said to remove dust, dirt or fingerprints without changing the colors or harming the film image. The company also manufactures a cleaner and moistener for black and white films. Directions for use and prices are given in a folder recently issued. Copies available on request.

•

Croke Issues New Price List

Allan B. Croke Co., Boston, has recently issued a new price list of its chemicals for the graphic arts. An announcement is included with the list advising customers that the information given is based on the situation existing at the time of going to press, and that new shortages and important price fluctuations may occur at any time.

•

Wrenn Issues "Print"

Wrenn Paper Co., Middletown, O., manufacturer of blotting papers, has just issued Vol. 2, No. 1 of its house organ, *Print*. Featured in the current number is a review of an interesting and successful blotter campaign recently used by an insurance company and an item on a special die-cut blotter, with a "before and after" message. Winners in Wrenn's second blotter contest are announced, along with details of a new contest. Included with the publication is an attractive blotter printed on Wrenn's Enameled Blotting paper.

•

Offer Plan to Test Displays

The Point-of-Purchase Advertising Institute, New York, has just issued "Testing Displays in Use," a booklet describing the plan by which it offers to test manufacturers' displays under actual field conditions. The basic question to be studied under the plan is whether or not the use of window and counter displays increases total sales or merely transfers sales from non-display to display stores. An answer will be arrived at by means of a series of tests, based on a standard procedure, which provide for the collection of facts from statistically balanced cross-sections of point-of-purchase markets. Factors to be studied include the nature of the product, character of the display material and kind of retail outlet in which sales are made, as well as the character of the location—geographical, urban or rural—and shopping district or neighborhood convenience. This testing service is at the present time available to manufacturers without charge.

•

Litho Processes Described

Howard Flint Ink Co., Detroit, is distributing copies of a handsome promotional piece entitled "Lithographed in U. S. A.," which was produced by the Graphic Arts Process Co., also of Detroit. The purpose of the brochure is to demonstrate the advantages of the three lithographic plate-making processes

SERVICE PLUS QUALITY!

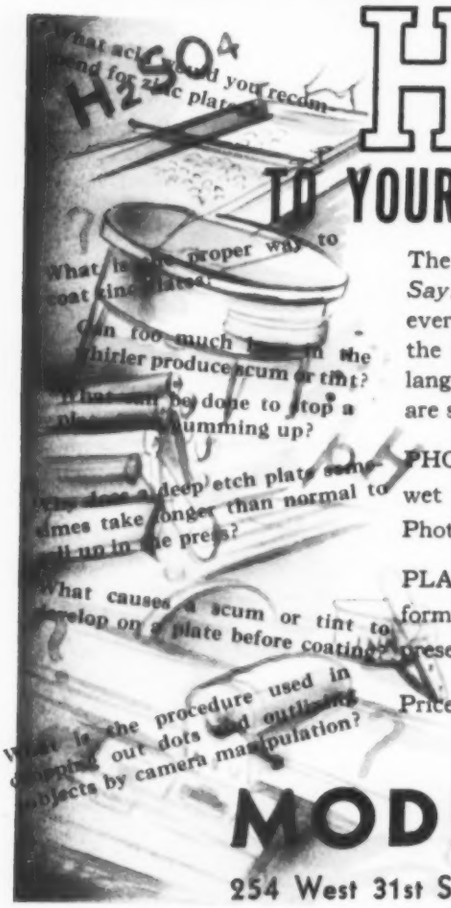
HAS MADE OUR PLANT THE WORLD'S LARGEST

WE SPECIALIZE IN SMALL PLATES
ALSO REGRAINING MULTILITH

ZINC and ALUMINUM PLATES
UNGRAINED—GRAINED—REGRAINED

LITHOGRAPHIC PLATE GRAINING CO.
OF AMERICA INC.

37-43 BOX STREET., BROOKLYN, N. Y. EVERGREEN 9-4260, 4261



Here's the answer..

TO YOUR CAMERA AND PLATEMAKING PROBLEMS

The Textbook of Photography and Platemaking for Photo-Lithography *by I. H. Sayre* contains 280 pages of up-to-date information on procedure and formulas for every operation from copy to the completed plate. Used as a standard textbook by the Chicago School of Printing and Lithography, it is written in easy-to-understand language and will give you the *right* answer to your basic every-day problems. Here are some of the subjects covered:

PHOTOGRAPHY—Chemistry of photography and formulas; Procedure for making wet and dry plate negatives; Filtering; Halftones; Screen separations; Drop-outs; Photographic equipment; Layout for a process darkroom; etc.

PLATEMAKING—Chemistry of lithographic printing; Albumin platemaking—formulas and procedure; Deep etched platemaking; Graining metal plates; Plate preservation; pH control; Blue prints and other direct printing processes; etc.

Price $5.00 Send for your copy today!

Please send check with order

MODERN LITHOGRAPHY

254 West 31st Street New York, N. Y.

—albumen, dot-etch and deep-etch —and to provide an accurate comparison of the results that can be obtained by the use of each. In order to do this, four different art subjects were selected and each was reproduced by all three processes. Three of the subjects are unretouched human interest photographs and the fourth is a retouched mechanical photo. Factors to be considered in the selection of one of the three processes for a given job are described as being the type of art work to be used, quality of reproduction desired, length of run, layout, and budget available. This is an outstanding piece of promotional work by a lithographer and at the same time is an excellent example of the high quality reproduction obtainable by the lithographic process. The Howard Flint Ink Co., who supplied the inks used in the brochure, will send a copy to anyone interested upon request.

•

Emphasize Value of Photographs

McCormick-Armstrong Co., printing and litho firm, Wichita, Kan., has just issued an interesting folder demonstrating the effectiveness of planned advertising photography and calling attention to its own recently installed photographic studio. Several unusual photographs illustrate how a carefully staged picture can emphasize a sales story.

•

Test Color in Direct Mail

Blue is the most popular color used in direct mail material, according to the results of a special test mailing recently conducted by the Color Research Laboratory of the Eagle Printing Ink Co., division of General Printing Ink Corp., New York. With the cooperation of Anthony R. Gould of the *United States News*, a total of 52,000 multigraphed letters in seven different color combinations were sent to 7,900 prospective subscribers of the *United States News*. Rating black on white as 100, the results were tabulated as follows: Two shades of blue on blue—108; black and red on white—105; blue and red on pink—92; blue and red on white—89; purple and green on green—89; and brown and orange on canary—85. In addition to pointing out the advantages of blue for direct-mail material, the survey also indicated that color may not always be desirable since black on white rated better than four other color combinations. Another conclusion drawn from the results is that prospects prefer white rather than strongly colored paper for letterhead and envelope, but a second color in the letter appears likely to increase returns. Among the best second colors, blue and red seemed to be the most productive.

•

Lithograph GE Booklet

National Process Co., New York, recently lithographed an attractive booklet entitled "Your New Home and Your Pocketbook" for the General Electric Co. Home Bureau, Bridgeport, Conn. The booklet has been produced in three colors—brown, yellow and red—on a cream colored stock. Attractive little wash drawings are used throughout to illustrate the text and an unusual die-cut chart is a special feature.

•

New Can for Kelly Inks

The E. J. Kelly Co., Kalamazoo, Mich., has just announced a new and improved can for the packaging of its line of printing and lithographing inks. An important feature of the new container is a molded rubber gasket fitted into a deep groove in the lid which presses firmly against the rolled edge of the can when the lid is in place, thus making an air tight fit. The lid may, therefore, be removed and replaced without impairing its air tight qualities. The new Kelly ink can is lithographed in black, red and white with a panel for attaching detailed information about the particular ink which it contains.

•

Ideal Describes "Synthox"

Ideal Roller & Manufacturing Co., Chicago, has just issued a new folder describing its "Synthox" rollers. This new roller is made of synthetic material and has been developed for use as forms and distributing rollers on all presses. The company points out in a special note that supplies of the synthetics used in the manufacture of Synthox rollers are regulated by OPM and, therefore, suggests that these rollers be used only as forms and recommends that its Vulcanized-Oil or Durotype Rollers be used as distributors. Copies available on request.

•

Lithographs Famous Painting

Magill-Weinsheimer Co., Chicago, recently produced for Anheuser-Busch Brewing Co., St. Louis, a "revised edition" of the famous lithograph, "Custer's Last Stand," which has been used for many years to advertise Budweiser beer. Previous reproductions had been made from a copy of the famous historical painting but for the new job it was decided to reproduce directly from the artist's original. In order to do this, the brewing company was obliged to purchase the painting. Magill-Weinsheimer produced the lithographed reproduction in seven colors.

•

Lithographs Impressive Piece

McCormick-Armstrong Co., Wichita, Kans., has produced another of its outstanding promotional pieces with "Impressions," a twelve-page lithographed booklet describing its extensive facilities for all types of printing and lithography. A noteworthy item is the lead article entitled "Defense and Your Advertising," which points out the effectiveness of direct mail as an advertising medium under conditions created by the defense program. The points emphasized are that direct mail can be brought into action quickly where executive planning must be on a short time basis and that it is an ideal means of explaining necessary merchandise, price and policy changes due to defense requirements. A particularly attractive feature is a two-page spread of natural-color photographs demonstrating the effectiveness of this type of reproduction for sales and advertising literature. Special attention is also called to the company's new photographic studio which produced several of the photographs included in the booklet.

A REVOLUTION IN CAMERA DESIGN

Universal Service Camera

ADAPTABLE TO YOUR SPECIAL REQUIREMENTS - FOR ALL PRACTICAL PHOTOGRAPHIC PURPOSES - SUPERCEDES ORTHODOX CAMERAS - ECONOMICAL IN FLOOR SPACE FOR DARKROOM OR GALLERY WORK

For every Photographic Process where copy is reproduced by the use of lenses from microscopic images to enlargements up to 36". Useful in all industries where photographic records are needed for any purpose. Offices, Hospitals, Libraries, Schools, Banks, Factories, Printing Plants.

For Color and Monochromatic Photography Where Precision, Quality, Speed and Convenience Are Desirable.

A NEW OPTICAL INSTRUMENT

Straight Line Image Reverser

FOR ALL SIZES OF LENSES AND PHOTOGRAPHIC METHODS EFFECTING ECONOMIES IN TIME AND MATERIAL COSTS

Enlarged or reduced Reverse Negatives	Large or Small Reverse Copy	Stripping films avoided Face to Face
Left to Right, Head Up, same as copy	White to Black on Photo Paper	Contact Images Finest Quality Prints

Perfect Register - No Distortion - No absorption of light - Color Separation Line Work - Halftone - Continuous Tone

Huebner Laboratories

305 EAST 46 STREET, NEW YORK, N. Y.

Anticipating useful and needed developments for the Graphic Arts since 1906

SAVE MONEY WITH LEATHER ROLLERS

Smooth and Grain

It has been a known fact throughout the Lithographic industry that the best form of distribution is from **leather rollers.**

The use of **leather rollers** for your distributors on the offset press is a guarantee for you that the proper distribution of ink will be assured.

The actual results from **leather rollers** is far superior to any other form of distributing rollers. The long life of a **leather roller** makes the cost of each roller less in the long run. The life of a **leather roller** whether it be smooth or grain is greater than ordinary rollers.

Our roller department is equipped with modern machinery and we are able to handle the rebuilding of all your molleton and leather rollers. We also make molleton covers ready to slip on.

Why not prove these facts for yourself

J. H. & G. B. SIEBOLD, Inc.

Manufacturers of

PRINTING **INKS** LITHOGRAPHIC

OFFICE: 47 WATTS ST. FACTORY: 101 SIXTH AVE.

NEW YORK, N. Y.

Phones: WAlker 5-5565-66-67-68

SR INC

COLOR SEPARATIONS • BLACK AND WHITE • • COLOR CORRECTED NEGATIVES READY FOR THE PHOTO-COMPOSING MACHINE • POSITIVES • PROVING • • PRESS PLATES: ALBUMEN DEEP ETCH • • •

WE GUARANTEE the same confidence and integrity that would be found in your own plant

WE OPERATE NO PRESSES NOR ARE WE AFFILIATED WITH ANY LITHOGRAPHIC HOUSE . . . .

SWART-REICHEL, INC.

Producers of Photo-Lith Work to the Trade

461 EIGHTH AVENUE • NEW YORK

Telephone BRyant 9-1906-7

ATTENTION MULTILITH OWNERS

For better results, have your plates regrained.

We specialize in this service.

WESTERN LITHO PLATE & SUPPLY CO.

1019 Soulard Street

ST. LOUIS, MO.

Graining and Regraining ZINC ALUMINUM GLASS

ALL SIZES ALWAYS IN STOCK FOR IMMEDIATE DELIVERY

A background of 20 years experience in the business.

WESTERN Litho Plate & Supply Co.

1019 SOULARD ST. ST. LOUIS, MO.

DMAA Announces Contest

The Direct Mail Advertising Association, New York, has just announced its 1941 Direct Mail Leaders Contest, which is open to all users of direct mail advertising. Awards for the fifty leading campaigns will be made on the basis of results, continuity and plan, copy, design and physical appearance. Several special prizes will also be awarded, including a cup presented by American Type Founders Sales Corp., Elizabeth, N. J., for the best example of modern typography in a direct mail campaign, and an award for the most effective use of color which will be presented by General Printing Ink Corp., New York. Producers of direct mail may enter campaigns prepared for their clients in the contest. Complete details and entry blank available upon request to the Direct Mail Advertising Association, 17 East 42nd Street, New York.

•

New Fluorescent Fixtures

Edwin F. Guth Co., manufacturer of lighting equipment, St. Louis, has just announced a new fluorescent lighting fixture known as the "G-S-T" glass surface troffer. The new fixture has been designed for one or two rows of lamps. A feature of the "G-S-T" model is a reflector in a "V" design between lamps which is said to minimize pocketed light. The Guth company has also announced a new "Futurliter" fluorescent fixture which provides a permanent lighting system with flexible footcandle capacity. The base or extension sections have been designed so that units or entire rows may be added to initial installations without disturbing the original system. The Futurliter model is equipped with a 300° white reflector and provides 45° lamp shielding with eggcrate louvres or 27½° with open bottom. It may be ceiling or suspended mounted and installed individually or in continuous rows.

•

Describes Printing Courses

The Printing High School of Cincinnati has issued a Student Handbook containing general information about the facilities of the school and describing the courses available. The school offers a specialized high school education to students who wish to enter the graphic arts industries of Cincinnati and vicinity. In addition to daytime classes in letterpress work, lithography and allied subjects, the school also offers advanced evening courses for those already in the trade. Copies available on request.

•

Explains Purpose of P. P. A. I.

The Point-of-Purchase Advertising Institute, New York, has just issued in booklet form excerpts from an address entitled "The Purpose of The Institute," delivered by Edward T. Sajous, executive secretary, at the spring meeting of the Association of National Advertisers held at the Westchester Country Club, Rye, N. Y., not long ago. The objective of the Institute, as explained by Mr. Sajous, is "to conduct a continuing study of point-of-purchase advertising, to seek out the facts—not the facts as they might prove a case, but the facts as they actually exist—and to make those facts available to advertisers for use in planning their merchandising programs." To carry out this objective, he continues, the Institute surveyed various advertisers in order to determine the problems and questions regarding the point-of-purchase medium that they wanted explained. Guided by advice and information received from these advertisers, according to Mr. Sajous, the Institute has gathered for further study a considerable volume of factual material, a good part of which is in the form of case histories.

•

New ATF Filt-Air-Lite

Increased emphasis on better pressroom working conditions, particularly with reference to the reduction of atmospheric dust, recently stressed in the educational work of the Graphic Arts Spray Manufacturers group, has led American Type Founders to redesign and improve the ATF Filt-Air-Lite which combines a press ventilating unit with modern fluorescent lighting directly over the delivery of the press.

The new Filt-Air-Lite contains a fan and an air filter of greatly increased efficiency, it is claimed. The unit will fit any press up to 25 x 38 sheet size, and may be fitted with either press bracket or floor bracket attachment. For larger presses, the use of two units to each press is recommended. Three models are available: Model O without fluorescent lamps; Model 2 with two fluorescent lamps; and Model 4 with four fluorescent lamps.

•

Describe Retyping Service

National Process Co., New York, has just issued a folder describing its retyping service for reproduction by offset lithography. Specimen pages of typewritten copy which has been reproduced, price lists, catalogs, house organs and other material suited to typewriter composition are included in the folder. Specimen typewriter faces available are also shown.

•

Lithographs Recipe Booklet

B. G. Lithographic Co., of Georgetown, British Guiana, has just completed an interesting booklet of "Rum Recipes" lithographed in three colors. Despite hampering climatic conditions, the company manages to consistently turn out work which is attractively laid out and well reproduced.

•

Issues Weather Forecaster

Geo. H. Morrill Co., division of General Printing Ink Corp., New York, has just issued an interesting folder containing a weather indicator which changes color with the changes in weather. Also included are rules for forecasting the weather. The folder has been printed with Morrill's Griptite Halftone Black ink. Copies available.

•

Issue Binder for Idea Bulletin

Whiting-Plover Paper Co., Stevens Point, Wis., is distributing a binder along with the current issue of "Permanized Selling," so that copies of the monthly idea-bulletin may be kept together for ready reference. A booklet describing the advantages of Wisconsin as a vacation center is also included.

DRISCOLL'S

Coverwell

INKS

OFFSET
LETTERPRESS
ANILINE

MARTIN DRISCOLL & CO.
610 FEDERAL STREET · CHICAGO, ILLINOIS
BRANCH PLANT IN MILWAUKEE WISCONSIN

"We Have What It Takes"
to Give You the Kind of

Direct Color Photography
FOR THE MOST
Faithful Litho Reproduction

Lithographers can depend on any set of continuous tone, 4-color separation negatives furnished by us being accurately balanced, and with the specified density range to insure the maximum amount of gradation for the minimum amount of dot etching.

DIRECT SEPARATIONS

We can successfully and economically handle any subject by direct color photography — for can label vignettes, box wrappers, folders, booklets, etc.

Also Separations from Flat Copies Such as Colored Artwork and Kodachromes

The many lithographing houses throughout the country who are using our service, do so because they have found our separations give better color rendition and finer reproduction.

COLOR-GRAPHIC STUDIOS
1346 Broadway Detroit, Mich.

Color or Black & White

HAMMER
DRY PLATES
and FILM

are the choice of discriminating craftsmen for negatives and positives.

•

HAMMER PANCHROMATIC PLATES A. H.
SOFT GRADATION COMMERCIAL PROCESS CONTRAST

•

HAMMER SPECIAL SUPER PROCESS PLATES A. H.

•

HAMMER OFFSET PLATES A. H.
SPECIAL ORTHO REGULAR

•

HAMMER OFFSET FILM A. H.
SPECIAL ORTHO HALFTONE REGULAR

SEND for descriptive booklet Dept. M. 1

HAMMER DRY PLATE & FILM CO.
OHIO AND MIAMI ST. LOUIS, MO.

Huronette PLATE

Product of
PORT HURON

. . . for fine Offset work

Really **WHITE**, sturdy, economical . . . specify HURONETTE to assure finest lithographing results. Takes roughest usage — meets a wide range of requirements. Samples on request.

SPECIFICATIONS

Color: Bleach White. **Weights:** 80, 100, 125, 150, 175, 200, 225 lbs. (24 x 36 — 500). **Sizes** (sheets): 24 x 36 — all basic weights; 22½ x 28½ — 100 lbs. and heavier; 20 x 26 and 26 x 40 — 100, 125, 150 lbs. only. **Grain:** all long grain. **Jumbo Rolls:** 72 inches wide. **Special Rolls and Sheets:** Sizes to fill trim; min. 65", max. 72". **Special Finishes and Weights** furnished on application.

PORT HURON SULPHITE & PAPER CO.
MILLS: Port Huron, Michigan
NEW YORK CHICAGO BEREA OHIO SAN FRANCISCO

The Litho Foundation

(*from page 31*)

In addition, extensive work on the halftone screen and its effect on tone and color reproduction is being carried out, and new developments appear promising. Work is also being done on the drying of inks with the object of overcoming the lithographer's perennial difficulties in this direction. The studies on ink have been made possible through the establishment of two graduate fellowships in the Research Department by the Sinclair and Valentine Company.

BECAUSE of restrictions on the use of certain lithographic materials, the present national emergency is presenting the lithographer with a number of new and serious problems. The Research Department is studying these problems and conducting extensive searches for substitutes for the restricted materials.

The Research Department maintains a small but excellent library of technical information on lithography and its related arts and sciences. Domestic and foreign periodicals are regularly searched for new developments indicative of trends in the graphic arts. Synopses of the more important articles which appear each month are published as "Lithographic Abstracts" in four domestic trade magazines. The number of inquiries from readers desiring to obtain the original articles in complete form indicates that "Lithographic Abstracts" are appreciated by alert and progressive lithographers.

Although the Research Department cannot undertake to solve production problems for individual shops, even in the cases of Foundation members and subscribers, every effort is made to be helpful. Anyone may suggest subjects for investigation by the Research Department. Such suggestions are studied by the Research Committee, and if they present basic problems common to any important branch of the lithographic industry, they will be placed on the research program for investigation. Information possessed by the Research Department, even though unpublished, is available to anyone seeking advice on the solution to some shop problem, either by correspondence or personal visit to the laboratory. The only exceptions are cases in which patentable developments are concerned that have not yet received full patent protection. Technical information is not furnished unless the inquirer is a bona fide lithographer or is connected with one of the allied industries.

In addition to the Foundation's research laboratory and technical information services, its Educational Department functions to promote and coordinate educational work among executives, technical men, and operators. These activities have developed and assisted in developing numerous schools and courses for apprentices, journeymen, and executives, throughout the country. One of its most outstanding accomplishments has been the inauguration of an intensive summer course in lithographic operations for technical men, at the New York Trade School. To enter this course the applicant must have the equivalent of a college degree in chemistry or engineering and be sponsored by a company whose interests lie mainly in the lithographic or associated industries. This course has been a means of introducing fresh, technically trained minds where technical methods have long been needed to supersede rule-of-thumb practices. The arrival of lithography as a technical industry will not only eliminate much of the groping empiricism of the past, but will also enable more rapid progress in the future through stimulation of research and utilization of its results.

•

Making Kodachromes

(*from page 57*)

blue as a subject lighted by a blue sky. Likewise when the sun is setting, direct rays from the sun are much redder than earlier in the day and the light much less bright. Subjects in direct sunlight near the time of sunset appear reddish, while just at sunset or immediately after, the subject may appear bluish. Though the warm glow at sunset is pleasing to the eye because the eye accommodates itself to a reddish light, Kodachrome seems always to exaggerate the redness unnaturally.

Another source of great influence on subject color, are the immediate surroundings. A person photographed beside a well illuminated bright red object may appear with skin tones too red in the Kodachrome. The same person standing in blue surroundings appears in a much cooler color.

Aside from the natural variations of color which are attributed to source of light and influence of surroundings, there may be mistakes in photographing which result in the wrong rendering of color. Using Type A Kodachrome Film in daylight without a filter will result in subjects that are entirely blue. Using Kodachrome Regular Film without a filter for Photoflood will also result in blue pictures. Projection lamps or house lighting lamps used for illumination result in a Kodachrome that is slightly yellow. A very yellowish cast results from using Kodachrome Regular without a filter with the Photoflood lamps. A film made outdoors of distant scenes may be too bluish if a Haze Filter is not used. A film made anywhere which is entirely yellow with blue subjects appearing black indicates that a yellow filter has been used which was intended for black and white film. Such filters should not be used with Kodachrome.

In Kodachrome photography intended for graphic arts reproduction careful attention to color harmony and subject brightness will pay large dividends. If the color photographer and the color process artist could get together for mutual understanding of each other's problems, much hard labor, time and money could be saved. Combinations of colors which are extremely difficult to reproduce and require much hand work for the color process artist might be compromised or avoided. Brightness range might be brought within practical limits for easier reproduction. Not that we wish to sacrifice art to simplicity, but in making reproductions easier and therefore less costly, more color work probably would be bought, which from the lithographic point of view is desirable.

(*To be continued*)

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LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio. Original articles cannot be furnished except as photostatic copies at 20 cents per page.

Photography and Color Correction

Process Lenses. Anonymous. MODERN LITHOGRAPHY, 9, No. 7, July, 1941, pp. 20-3, 55. The function of a process lens differs greatly from that of lenses for ordinary photographic purposes, and the lenses must be especially corrected for the scale of reduction and enlargement at which they are used. The six principal requirements of a process lens are listed. With the source of imported lenses cut off there may be a shortage of lenses since a large percentage of the domestic output is being claimed by defense industries. This will lead to increased activity in the used lens market. A list of the lenses on the market designed for process work is given. The methods of testing a lens to be sure that it is usable for process photography are thoroughly discussed. A table is given showing the camera extension and copyboard distance for various focal lengths and magnifications.

The Process Camera. Walter A. Kaiser, *National Lithographer*, 48, No. 7, July, 1941, pp. 15-6. The press plate can be no better than the photography which provides its image. The process camera needs ease of operation and precision as is found in the photostat machine. The dark room camera, however, is a great improvement over the old gallery camera. Focussing scales eliminate trial and error work and save much time. Parallelism of the camera back, camera front, copyboard, glass negative or positive, and screen is extremely important. Screen separation should be measured by the depth gauge or a miscroscope with a graduated tube, not by the camera scale or a wedge. The glass which takes the place of the screen for combination exposures must be of good quality and have optically flat surfaces.

Ferricyanide and Hypo as Dot Etch Reducers. A. C. Austin. *National Lithographer*, 48, No. 7, July, 1941, pp. 24, 45. A simple means, developed by Mallinckrodt, of removing the shellac resist makes possible the use of cold-top bichromated shellac solution for deep-etch plate making in lithography. The usual iodo-cyanide reducer for dot etching has a very bad odor which makes some people sick. The ferricyanide and hypo used in Alexander Murray's method has no odor and the method yields good results if an exact scientific procedure is followed. Ammoniated copper sulfate and salt with some hypo may be used as a reducer and is not at all poisonous, but it works more slowly than iodo-cyanide.

Notes and Comments. W. B. Hislop. *Process Engravers' Monthly*, 48, No. 569, May, 1941, p. 147. A new idea for accurate focussing is to have the focussing screen divided into small panels or matte squares of surface ground alternately on each side of the screen. The sensitive film is adjusted so that it is in between the two planes, i. e. the center of the screen glass. Where the image is equally sharp on both planes it will be in exact focus on the sensitive plate. The parallax method of focussing, which is the most accurate, is discussed. The accommodating power of the eye when a simple lens is used is mentioned. A new product put out by the Cramer Plate Co. which may be especially useful in indirect color work is an aluminum plate coated with a white base and sensitized with process emulsion.

Progress in Color. Anonymous. *British Journal of Photography*, 88, 1941, No. 4210, pp. 18-20; No. 4214, pp. 66-8; No. 4216, pp. 92-3; No. 4218, pp. 112-3; No. 4221, pp. 147-9; No. 4222, pp. 160-1. In the current installments of this continued series of articles, British patents on the following subjects are discussed: (1) color rendering, (2) sound tracks on color film, and (3) apparatus and optical systems for color photography. Formulas and diagrams are given. In the last two issues is a review of the entire series up to this point.

Dodging Dye for Engravers. Anonymous. *Photo Technique*, 3, No. 5, May, 1941, p. 73. A neutral black retouching dye, manufactured by Thomas S. Curtis Laboratories, at Huntington Park, Calif., allows fine blending with delicate tones in retouching continuous-tone negatives. An established practice in process photography, red and orange dyes have been used on continuous-tone or half-tone images to hold back some areas from printing. Disadvantages in the old style are that the visual density is not necessarily the printing density, and the color of the viewing light may influence the visual density. The new dye is of such composition that smooth application is possible in broad or small areas.

Planographic Printing Surfaces and Plate Preparation

Offset Platemaking. I. H. Sayre. MODERN LITHOGRAPHY, 9, No. 7, July, 1941, pp. 34-5, 39. The troubles

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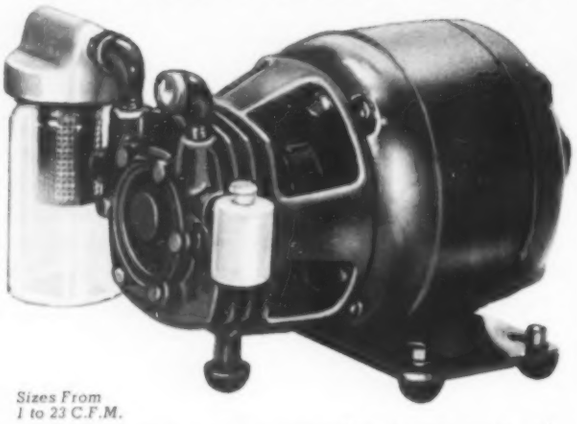

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encountered in making deep-etch plates are usually caused by faults in one or more of the following variables: (1) exposure, (2) coating, (3) development, and (4) image "grounding." These factors are briefly discussed. Instructions on stripping film including formulas and procedure are given.

Equipment and Materials

Offset Blanket Problems. Oscar Diehl. *Lithographers' Journal*, 26, No. 4, July, 1941, pp. 148, 169. Before it is used, a new blanket should be checked for low and uneven places and built up level by packing. All patches should be pasted on one sheet. Packing extending to within ½ inch of each end of the cylinder is best. Over-packing is apt to cause embossing and pinholing. Embossed areas can be rubbed down with 00 or 000 sandpaper or a very fine emery cloth, while a pinholed blanket can be fixed successfully only by steel plate conditioning. Sometimes if the mashed areas in a blanket are soaked freely on the back with water and allowed to stand overnight, the mashed place will have disappeared in the morning.

Inking Device of Printing Machines. Alfred Schlesinger. *U. S. Patent*, No. 2,248,645 (July 8, 1941). A method of transferring ink from the ink supply to the inking rollers of a printing machine which consists in taking from the supply a charge of ink sufficient for at least two printing impressions, isolating and working-up said ink to increase its fluidity during a period of time sufficient to enable at least two printing impressions to be made by the machine, and when said ink has been worked-up, supplying it to the inking rollers in quantities smaller than said charge but by successive applications to the inking rollers so that while a number of impressions are being taken corresponding to the said charge, the worked-up ink is supplied in smaller quantities to the inking rollers by a plurality of transfers so as to obtain substantial uniformity of density of the successive impressions, and while these impressions are being made, working up another isolated charge of ink sufficient for at least two printing impressions.

Synthetic Rubber Rollers. Anonymous. *American Ink Maker*, 19, No. 7, July, 1941, pp. 43-4. "Ameripol," a new synthetic rubber developed by B. F. Goodrich Co., appears to have interesting possibilities in the manufacture of oil-resisting printing rollers. Crude "Ameripol" is very similar in appearance to natural crude rubber and, like natural rubber, can be compounded to give a wide variety of properties in the finished product. It is claimed that it offers unusual resistance to mineral, animal and vegetable oils and fats, and to the oxidizing effect of the metallic soaps used as driers in printing inks and coatings. Unlike other synthetic rubber compounds, "Ameripol" can be made in the same hardness range as natural rubber compounds, thus making possible the production of soft, resilient printing rollers.

Composition Rollers. John Stark. *Inland Printer*, 107, No. 3, June, 1941, pp. 59-60. Composition rollers will crack and refuse to take ink unless they are kept clean. Ink should never be allowed to dry on the rollers. If an ink film has accumulated for some time it can be softened with ordinary denatured alcohol and removed with No. 00 grade sandpaper. If the rollers are received in cold weather, they should be allowed to stand before they are unpacked because the shell of the roller becomes brittle when it gets cold and is apt to crack when handled.

Paper and Ink

Drying of Printing Inks. Anonymous. *Chemical Trade Journal and Chemical Engineer*, 108, p. 293 (1941). The drying of printing inks made by the dispersion of pigments in polymerized linseed oil is the subject of a Ph. D. thesis at the University of London. Conclusions are given as regards effect of film thickness, influence of humidity and emulsified water, effect of temperature, effect of cobalt concentration, effect of acidity, and inhibitive influence of organic bases or small concentration of SO_2 or HCl in the air. (*American Ink Maker*, 19, No. 7, July, 1941, p. 43.)

Glossmeter. Donald B. Bradner and George C. Munro (to The Champion Paper and Fibre Company). *U. S. Patent* No. 2,246,501 (July 24, 1941). A device for measuring gloss on paper comprising a cylindrically convex support for giving a definite form and position to the paper whose gloss is being measured, a light source, a lens for collimating light from said source into a beam of substantially parallel rays, a cylindrical light converging element disposed parallel to said support and in the path of said beam with its focal line approximately coincident with the virtual focal line of the cylinder formed by the paper on said support, whereby that part of the light beam which is specularly reflected by the paper on said support is in the form of a substantially parallel beam, and means for measuring the intensity of that part of the light from said beam which is specularly reflected by the paper.

Composite Pigment and Manufacture Thereof. Norman F. Livingston (to The Sherwin-Williams Company). *U. S. Patent* No. 2,237,104 (April 1, 1941). A process for the manufacture of pigments having a lead chromate base which comprises forming lead chromate by precipitation in an aqueous medium, forming an insoluble metal silicate by precipitation in an aqueous medium, and in performing said steps carrying out one precipitation in the presence of the originally-wet product of the other precipitation.

Printing Ink Production Club Hears Talk on Spectrophotometry. Walter C. Granville, speaker. *American Ink Maker*, 19, No. 6, June, 1941, pp. 35, 43. The ways in which the spectrophotometer is useful in the printing ink industry are discussed. The spectrophotometer does not measure color but measures the reflectance of a material at every wavelength in the visible spectrum. Two colors which look alike to the eye

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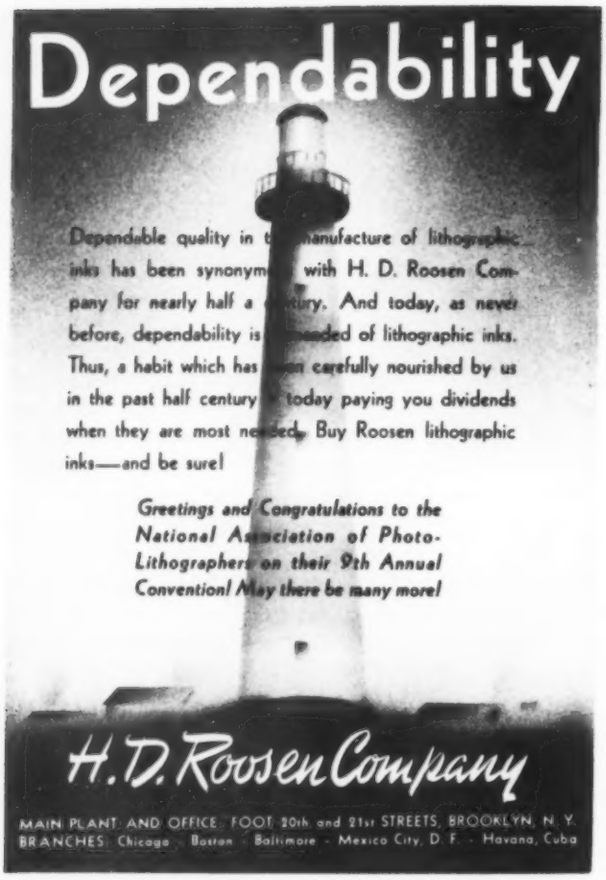

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may have different spectrophotometric curves, but two colors with the same spectrophotometric curves will always look the same to the eye. The spectrophotometer can be used to obtain accurate evaluation of tinting strength, to obtain an evaluation of the permanence of a pigment or printing ink, and to aid the color matcher in identification of the pigment and varnish used.

Matching Ink. Anonymous. *American Ink Maker*, 19, No. 4, April, 1941, p. 35. In matching colors from a sample book or similar specimen, the ink maker should make the color stronger. The shade can always be cut down and when it is run on the press it is squeezed out much thinner than when it is proved by the ink maker. (*Share Your Knowledge Review*, 22, No. 8, June, 1941, p. 12.)

New Glossmeter. Anonymous. *American Ink Maker*, 19, No. 6, June, 1941, p. 45. A new type of glossmeter, designed primarily to test samples for compliance with original gloss specifications and to measure progressive changes in the gloss of various finishes and inks with age, has been developed by the Henry A. Gardner Laboratory, 4723 Elm Street, Bethesda, Maryland. The 60-degree angle of viewing and other features correspond to the conditions set down by the A. S. T. M. in their Specification D523-39T for determining specular gloss of paint surfaces. The instrument is compact, relatively inexpensive and easy to use. Both portable and stationary types are available.

Coating Webs of Material Such as Paper Having a Printed or Inked Surface. M. Earl Wysong (to The Fred Goat Company, Inc.). *U. S. Patent* No. 2,230,876 (Feb. 4, 1941). Apparatus is described, and a method of protectively coating a web having a printed or inked surface, which includes applying a first coating or solution of vinyl acetate resin which closes the surface pores of the web and which remains plastic and tacky but which draws the ink or color from the web into itself, and there after applying a second coating or solution of cellulose acetate which quickly dries to a hard and glossy finish and which also draws the ink or color into itself. (*Chemical Abstracts*, 35, No. 10, May 20, 1941, pp. 3443-44.)

Moisture in Paper. C. N. Candee. *Pulp and Paper Magazine of Canada*, 42, pp. 121-2, 126 (1941). A discussion of some aspects of the practical moisture problems encountered in a fine paper mill and of their control. (*Chemical Abstracts*, 35, No. 9, May 10, 1941, p. 3086.)

Determination of Relative Humidity in Conditioning Paper for Testing. F. R. Carson. *Paper Trade Journal*, 112, No. 32, June 5, 1941, pp. 27-8. Relative to the revised TAPPI method for conditioning paper for testing, T402m, it seemed desirable to include a psychrometric chart for use in converting the wet- and dry-bulb readings to relative humidity. It was felt that this would lead to better agreement among laboratories in the converted values than if various charts or tables were used. In order to obtain information in this respect, members of the TAPPI Paper Testing Committee were asked to convert the same given psychrometric data by their usual method. This article gives the results together with comments on them by F. T. Carson, National Bureau of Standards, who also prepared the chart to be used with the method.

General

The Elimination of Roller Stripping. Charles F. Geese. *National Lithographer*, 48, No. 7, July, 1941, p. 26. There are various other things beside the wrong fountain etch which contribute to roller stripping. Improperly set inking rollers, etch applied directly to the ductor roller of the dampening unit, dirty dampeners, feeding ink with a knife instead of using the ink fountain, all tend to cause stripping. Colors with laketine as a base are apt to cause stripping, but this condition may be overcome by adding No. 5 varnish to all laketine made inks. Paper sizings which are not suitable for offset can also contribute to stripping.

Photo Offset for Reprints. Martin Leeden. *Modern Lithographer and Offset Printer*, 37, No. 5, May, 1941, pp. 54, 58. Among several methods of making reprints, photo offset is an excellent process. If the letterpress forms are available, prints may be taken on cellophane or Baryta paper, for use in plate-making. The reflex process can be employed to make negatives from opaque prints. While these methods yield only same-size copies, smaller size negatives may be made in the camera, thus economizing on paper.

Miscellaneous

Priorities. H. Kennedy McCook. MODERN LITHOGRAPHY, 9, No. 6, June, 1941, pp. 35-6. The priorities situation with respect to aluminum, zinc, tung oil, and paper is discussed. Lithography has been placed under a B-4 rating as regards aluminum for plates. This provides that, "deliveries by producers shall not exceed 60% of the customer's monthly average of 1940 shipments from the same producer for corresponding purposes." The amount is 90% for scrap aluminum. Although there will not be as much as usual, there will probably be no serious shortage in pulp for paper in 1941. Tung oil is not subject to any priority control as yet, but some allocation system will probably become advisable.

Applying Litho Prints to Earthenware. John Arthur Johnson. *British Patent* No. 533,945. The object of this invention is to provide an improved machine of a simple and convenient character for applying litho prints or coloured transfers to china, earthenware, glass or enamelled ware, or other bodies. It comprises a brushing machine which operates a brush in an eccentric rotary motion which includes the combination of a vertical pillar, a transverse arm tilting adjustably on the pillar, and a spindle arranged at one end of it and at right angles to the arm and adapted to carry at its lower end an eccentrically-mounted brush, the arm

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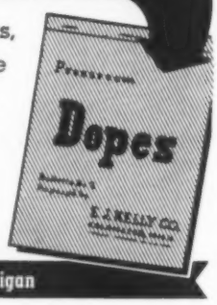

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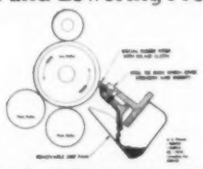

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BOX 728 MODERN LITHOGRAPHY

being also provided with a means for rotating the spindle. (*Process Engravers' Monthly*, 48, No. 569, May, 1941, p. 155.)

Printing Plates. Chambon Corporation. *British Patent* No. 535,076. This invention relates to printing plates and aims to provide a thin flexible metal printing plate and an improved method of preparing same. This printing plate consists of a thin flexible sheet of metal having an intermediate printing surface and end portions there beyond, transverse bends being located adjacent each end of said printing surface with the metal displaced at each bend by swaying or upsetting to provide integral sharp edges at each end of said printing surface, and said end portions projecting below said printing surface, the printing plate being between 1/8 inch and 5/1000th inch in thickness. (*British and Colonial Printer and Stationer*, 128, No. 656, May 15, 1941, p. 174.)

•

The Paper Situation

(*from page 63*)

lithographers are concerned, the orders have been largely for jobs that they are required to produce. There is evidence that their customers are piling up inventories of printed labels, package wraps, enclosures offering directions for using, and standard printed literature, (b) because those that are covering requirements in advance are afraid to have their orders delayed, and so will not admit that they can be delayed.

By loading the paper industry with orders for future use, the customers made it impossible for the mills to make reasonable deliveries. Then, the long delivery promises, in turn, established the fact that paper is hard to get, and prompted customers to anticipate further. So long as this continues, paper will be hard to get, yet the strain on the industry's capacity is not caused by use, but by accumulation.

•

Offset Paper at Work

(*from page 66*)

in dimensions required for forms containing bleed pages there has been a heavy increase in the tonnage of irregular sizes of paper which have to be made by special order at the mills." These necessary additions amount to a considerable expense which could be avoided by abandoning bleed illustrations. For example, this commentator cited the case of a publication which formerly used a sheet 41x69½, but which on adopting bleed pages had to increase the sheet size to 42x74½ inches. Assuming the basic weight to have been 70 lb., the original ream weight would have been 210 lbs., and the new ream weight 230 lbs., or nearly 10 per cent increase.

•

Intensification

(*from page 59*)

analysis shows, owes its intensifying property partially to its staining effect is made as follows:

Solution A

Uranium Nitrate . . . . . 45 grs.
Water . . . . . 10 ozs.

Solution B

Potassium Ferricyanide . . . . . 45 grs.
Water . . . . . 10 ozs.

Prior to use, add 5 ozs. of *A* to 5 ozs. of *B* and to the combined mixture add 1 oz. of glacial acetic acid. The negative is placed in this bath and the image assumes a red brown color. As intensification increases, the color of the image becomes redder. When the desired intensification has been obtained the plate or film is washed until the water is no longer tinged. The writer prefers the following copper and silver solution:

Stock Solution A

Copper Sulphate . . . . . 365 grs.
Potassium Bromide . . . . . 365 grs.
Water . . . . . 32 ozs.

Add 10 to 20 drops of nitric acid to the above.

Stock Solution B

Silver Nitrate . . . . . 1¾ ozs.
Water . . . . . 32 ozs.
Nitric Acid . . . . . 2 drops

The plate or film must be thoroughly washed before immersion into Solution A. The image is bleached until it turns white after which it is given a rapid but thorough rinse in water and then blackened in Solution B. Rinse well and then dry. This procedure may be repeated if additional intensification is desired.

An intensifier of high permanency is the silver intensifier (Eastman) which deposits an amount of silver on the image which is practically proportionate to the amount already existing in the image.

Stock Solution I

Silver Nitrate Crystals . . . . . 2 ozs.
Distilled water to make . . . . . 32 ozs.

Stock Solution II

Sodium Sulphite . . . . . 2 ozs.
Water to make . . . . . 32 ozs.

Stock Solution III

Hypo . . . . . 3½ ozs.
Water to make . . . . . 32 ozs.

Stock Solution IV

Sodium Sulphite . . . . . ½ oz.
Elon . . . . . 350 grs.
Water to make . . . . . 96 ozs.

The working solution may be prepared as follows:

Add 2 ozs. of Stock Solution II to 2 ozs. of Stock Solution I. The two should be mixed together slowly with thorough stirring. Add 2 ozs. of Solution III to the above mixture and the white precipitate which was previously formed should be now re-dissolved. When the resulting solution is clear add 6 ozs. of Stock Solution IV. The mixed intensifier is then ready for use, but it is stable only for a very short time and should be discarded after use. The degree of intensification depends upon the time of treatment. As long as the solution remains stable it will continue to intensify. After this treatment the plate or film should be rinsed in a mild plain hypo solution and then washed thoroughly.

In choosing an intensifier one has to bear in mind the possibility of further treatment. In the case of the uranium formula, the discoloration produced precludes any possibility of satisfactory further treatment. If dot-etching is contemplated, it is desirable to use the silver intensifiers.

From the foregoing it should be obvious that intensification is not merely a corrective measure. The camera man who resorts to intensification where the physical limitations of the camera cease will find it possible to evolve a technique for the production of better line and halftone negatives.

•

Sorg Paper Co., Middletown, Ohio, is distributing a folder containing specimens of its White Sorex paper. Complete specifications are given including sizes and weights.

"WHERE-TO-BUY-IT"

NOTE: This is a classified list of the companies which advertise regularly in MODERN LITHOGRAPHY. It will aid you in locating advertisements of equipment, materials or services in which you are particularly interested. Refer to the Advertiser's Index on page 97 for page numbers. *Say you saw it in Modern Lithography.*

Chemicals

Agfa Ansco
California Ink Co., Inc.
Coleman & Bell Co.
Defender Photo Supply Co.
Eastman Kodak Co.
Harris-Seybold-Potter Co.
LaMotte Chemical Products Co.
Litho Chemical & Supply Co.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Norman-Willets Co.
Harold M. Pitman Co.
Senefelder Co., Inc.
J. H. & G. B. Siebold, Inc.
Sinclair and Valentine Co.
John Stark Laboratories

Graining and Regraining

(Zinc, Aluminum, Glass and Multilith Plates)
Aljen Service
Dixie Plate Graining Co.
Fuchs & Lang Mfg. Co., Div. General Printing Corp.
Illinois Plate Graining Co.
International Printing Ink, Div. of Interchemical Corp.
Litho Plate Grainers of Detroit
Litho Plate Graining Co. of America, Inc.
Maklin Litho Plate Graining Co.
Photo Litho Plate Graining Co.
Reliable Litho Plate Graining Co.
The Senefelder Co., Inc.
Standard Litho Graining Co.
Texas Offset Supply Co.
Western Litho Plate & Supply Co.

Graining and Regraining Materials

American Graded Sand Co.
International Printing Ink, Div. of Interchemical Corp.
The Senefelder Co., Inc.
J. H. & G. B. Siebold, Inc.
Zarkin Machine Co.

Inks—(Varnishes and Dryers)

Bensing Bros. & Deeney
California Ink Co., Inc.
Crescent Ink & Color Co. of Penna.
Martin Driscoll & Co.
Howard Flint Ink Co.
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp.
Gaetjens, Berger & Wirth, Inc.
International Printing Ink, Div. of Interchemical Corp.
E. J. Kelly Ink Co.
F. G. Okie, Inc.
Lewis Roberts, Inc.
H. D. Roosen Co.
The Senefelder Co., Inc.
J. H. & G. B. Siebold, Inc.
Sinclair & Carroll Co.
Sinclair and Valentine Co.

Miscellaneous

Russell Ernest Baum (Folding Machinery)
Brewer-Cantelmo (Binding)
Color-Graphic Studios (Color Separation Services)
Ralph C. Coxhead Corp. (Composing Machines)
Ben Day, Inc. (Shading Medium)
International Business Machines Corp. (Typewriters)
Johnson Stop and Indicator Co. (Drop-Out Method)
Phillips Color Laboratory (Color Separation Services)
Underwood-Elliott-Fisher Co. (Typewriters)
U. S. Finishing & Mfg. Co. (Mounting and Finishing)

Paper

American Writing Paper Corp.
The Beckett Paper Co.
Champion Paper and Fibre Co.
Chillicothe Paper Co.
Fox River Paper Corp.
Hammermill Paper Co.
The Mead Corp.
Neenah Paper Co.

Paper—Continued

Port Huron Sulphite and Paper Co.
The Sorg Paper Co.
Strathmore Paper Co.
S. D. Warren Co.
West Virginia Pulp & Paper Co.
George A. Whiting Paper Co.
Wrenn Paper Co.

Photo Dry Plates and Films

Agfa Ansco
California Ink Co., Inc.
G. Cramer Dry Plate Co. (Photo Dry Plates)
Defender Photo Supply Co.
Eastman Kodak Co.
Hammer Dry Plate & Film Co.
Norman-Willets Co.
Harold M. Pitman Co.

Plate Making Equipment & Supplies

Aluminum Co. of America (Aluminum Plates)
American Type Founders Sales Corp. (Cameras, Whirlers, Vacuum Frames, etc.)
California Ink Co., Inc. (Zinc and Aluminum Plates)
Craftint Mfg. Co., The (Opaques and Masking Ink)
The Douthitt Corp. (Cameras, Vacuum Frames, Cooling Sinks, etc.)
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp. (Zinc and Aluminum Plates)
Gast Mfg. Corp. (Vacuum Pumps)
C. P. Goerz American Optical Co. (Lenses)
Huebner Laboratories (Cameras, Photo-Composing Machines, etc.)
Illinois Zinc Co. (Zinc Plates)
International Printing Ink, Div. of Interchemical Corp. (Aluminum and Zinc Plates)
Kellogg Div., American Brake Shoe & Foundry Co. (Tray Coolers)
Lanston Monotype Machine Co. (Cameras, Photo-Composing Machines, etc.)
LaMotte Chemical Products Co. (pH Control Apparatus)
National Carbon Co., Inc. (Carbons)
Norman-Willets Co. (Cameras, Lenses, etc.)
F. G. Okie, Inc. (Opaques)
Harold M. Pitman Co. (Cameras, Vacuum Frames, Whirlers, etc.)
Rutherford Machinery Co., Div. General Printing Ink Corp. (Cameras, Photo-Composing Machines)
The Senefelder Co., Inc. (Aluminum Plates, Litho Stones, etc.)

Plate Making Services

Chicago Group of Offset Plate Makers
Graphic Arts Corp.
Knop & Braver, Inc.
Modern Litho Print Co.
Offset Fine Arts, Inc.
Photo Litho Plate Co.
Swart-Reichel, Inc.

Pressroom Equipment & Supplies

American Type Founders Sales Corp. (Presses—Offset Spray Gun, etc.)
Sam'l Bingham's Son Mfg. Co. (Rollers)
The Christensen Machine Co. (Bronzers)
Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp. (Flannel)
Godfrey Roller Co. (Dampening Rollers)
Harris-Seybold-Potter Co. (Presses)
R. Hoe & Co. (Presses)
Ideal Roller & Mfg. Co. (Rollers)
International Press Cleaners & Mfg. Co. (Press Cleaner)
International Printing Ink, Div. of Interchemical Corp. (Flannel, Molleton, etc.)
Kimble Electric Co. (Motors)
LaMotte Chemical Products Co. (pH Control Apparatus)
Rapid Roller Co. (Rollers and Blankets)
The Rathbun & Bird Co., Inc. (Machinists)
Roberts & Porter, Inc. (Rollers and Blankets)
Rutherford Machinery Co., Div. General Printing Ink Corp. (Proof and Test Presses)
The Senefelder Co., Inc. (Blankets, Molleton, etc.)
J. H. & G. B. Siebold, Inc. (Rollers, Blankets and Molleton)
Sinclair and Valentine Co. (Blankets)
W. A. Taylor & Co., Inc. (pH Control for Fountain Solutions)
Vulcan Proofing Co. (Rollers and Blankets)
Zarkin Machine Co. (Rebuilt Presses)

CLASSIFIED

All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of Modern Lithography, 254 W. 31st St., New York. **Closing date: 1st of month.**

Position Wanted:

By man with 15 years of varied experience from cameraman—negative stripper—plate-maker—to operator of Harris Press. Enough technical knowledge to solve most difficulties encountered in photo-lithography. Address Box #713.

•

Situation Wanted:

Litho pressroom foreman, ten years experience. Good production, high quality work. Presently employed. Address Box #714.

•

Position Wanted:

Offset pressman, capable of taking charge, desires steady position. Twenty-one years experience on all classes of work including black and white and color. Expert mechanic. Age, 38. Will locate anywhere for right opportunity. Address Box #715.

•

Photo-Mechanical Equipment For Sale:

One Rutherford Photo Lettering machine completely equipped with a full series of Gothic, Roman and other lettering. Address Box #716.

•

Wanted:

Used Bronzing Machine for sheet size 41 x 54 or slightly smaller. Maverick-Clarke Co., San Antonio, Texas.

•

For Quick Sale:

Two Harris 22 x 34 Offset Presses including wash-up machine, controller and motor in good operating condition. $2900 each or both for $5500. Also F & L 60 x 60 graining machine with motor, $500; late model Varityper for $300; complete bindery and office furniture and files; new 133 line Levy circular screen. Address Box #725.

•

Situation Wanted:

Designer, layout man of unusual ability desires position as department head in plant producing labels, packaging or displays; thoroughly experienced. Address Box #717.

•

For Sale:

25 Amp., 100 Volt Printing Lamp —$30.00; 22″ x 28″ Vacuum Printing Frame—$80.00; 17″ x 24″ Levy Cameras. Singer Engineering Co., Camera & Plate Making Equipment, 242 Mott Street, New York City.

•

For Sale:

Harris Offset Press, 2-color, 42 x 58, LSK, 2½ years old. Strictly first-class condition. Address Box #722.

•

Situation Wanted:

Thoroughly competent cameraman and platemaker, now employed as department foreman in large plant, desires connection with small or medium-sized progressive concern that can offer good opportunity for the future. Location immaterial. Address Box #723.

•

Situation Wanted:

Harris and Webendorfer offset pressman, over fifteen years experience, accustomed to quality work and good production, steady worker. Locate anywhere. Address Box #724.

•

General Information Concerning Inventions and Patents:

A reference book for inventors and manufacturers, also containing sections on the registration of trademarks and copyrights, and a "Schedule of Government and Attorneys' Fees"—sent free on request. Simply ask for "booklet" and "fee schedule." Lancaster, Allwine & Rommell, Registered, Patent and Trade-Mark Attorneys, 402 Bowen Building, Washington, D. C.

•

Wanted:

17 x 22 Harris (LSB) Offset Press —late model. Give full specifications, particulars and terms. Address Box #720.

•

Position Wanted:

Webendorfer offset pressman and platemaker; good on color, capable mechanic. Locate anywhere for right opportunity. Address Box #726.

•

Position Wanted:

Young executive, now superintendent New York concern, wishes to change. Excellent basic knowledge of lithography. Free to travel. Address Box #727.

•

Wanted:

1200 Multilith. For sale, 200 Multilith, M-24, Multicolor, 2 tons S & S. C. book paper. What have you? Make offer. Richardson, Cawker, Kansas.

•

Wanted:

29″ x 45″ Rotary Metal Decorating Press, preferably Hoe. Must be in good condition. State prices, capacity, and availability. Address Box #712.

•

Wanted:

Offset Pressman to operate 22 x 34 and/or 17 x 22 Harris one-color offset presses in Southern City. Permanent. Write detailed qualifications, experience, age and salary expected. Address Box #718.

•

Opportunity: Will Sell for Cash—

Fastest growing printing and offset plant and business in Tennessee. Repeat business from three states. Established 1926. Owner deceased. Address Box #719.

•

Save zinc, time and money with a "**Litho-Pencil.**" Make corrections, additions and side gauge marks without danger of damaging plates. Sent on ten-day free trial. Price fifty cents. N. C. Sorensen, 3540 the Paseo, Kansas City, Mo.

HOW WILL IT LOOK ON THAT FINISH?

For the answer, get this demonstration set— *FREE!*

Ever been puzzled to tell which finish of offset paper to use? Or to show a customer how his job will look on the paper he wants? You needn't be again if you send for the new demonstration set of Hammermill Offset. The set includes individual, 17½ x 22½, four-color reproductions of a recent painting of a Lockheed Hudson bomber (suitable for framing) on each of the nine different Hammermill Offset finishes. Can be used to show effects of particular finishes, also to compare expected results on various finishes. For your free set, write on your business letterhead to Hammermill Paper Co., Dept. ML, Erie, Pa.

LITHO PLATES

ZINC and ALUMINUM PLATES

UNGRAINED—GRAINED—REGRAINED

grained correctly to your specifications . . . . for your special requirements. We are manufacturers of METAL-SHEETS for ROTAPRINT Machines, also square edge plates for Multilith Presses.

THE PHOTO LITHO PLATE GRAINING COMPANY

1207-15 S. Highland Ave. BALTIMORE, MD.

U. S. Offers:

The most *complete* finishing service available—

VARNISHING LACQUERING MOUNTING
DIE CUTTING TIN MOUNTING GUMMING
HEAT SEAL ADHESIVES HOT MELT ADHESIVES
GREASEPROOF COATINGS
MOISTURE-VAPOR RESISTANT COATINGS

Your correspondence on any finishing problem will have our prompt careful consideration.

U. S. FINISHING & MFG. CO.

773 WEST JACKSON BLVD. CHICAGO, ILLINOIS

RUSSELL *THE FASTEST SELLING FOLDERS IN AMERICA*

ERNEST

THE WORLD'S GREATEST FOLDING MACHINE VALUES **BAUM**

615 Chestnut St. **Philadelphia, Pa.**

It's Easy To Make Money With Vari-Typer

Compose copy for bulletins, sales manuals, booklets, catalogs, folders, etc. on the composing Type Writer . . with changeable faces and spaces. Any competent typist after proper instruction can Vari-Type your work to photo offset copy with large *savings and improved appearance.*

Write Today for new specimen portfolio "How to Make Money with Vari-Typer" . . . with actual samples issued by organizations in the lithographic field.

RALPH C. COXHEAD CORPORATION
Manufacturers of Vari-Typer
333 Sixth Avenue New York, N. Y.

MULTILITH OPERATORS

Your Multilith is a lithographic machine. Save money by getting our complete list of litho suppliers—graiers, chemicals, ink, dryers, molleton, misc. equipment.

Enclose 3c stamp

MODERN LITHO PRINT CO.
211 E. Capitol Jefferson City, Mo.

Your Problem Can Be Solved By This Man—

He is a production manager; has had 16 years practical experience in the Lithographic business and can perform all operations in it; he is a graduate of M.I.T. and a well-known Lithographic technician.

Address Box 721—MODERN LITHOGRAPHY

Open Fall Term September 29

The Chicago School of Printing and Lithography will begin its fall term on September 29. Classes scheduled in the lithographic division include camera work, plate-making and offset press operation. Harold E. Sanger, director, has announced that particular emphasis will be placed on the advanced course in color separation work, including operations with kodachrome, carbros, wash-off reliefs, dot-etching and color process work. I. H. Sayre continues as instructor in camera work and plate-making and S. D. Meindersma will train operators on the School's Harris and Webendorfer presses.

•

Mack Heads Exhibits Committee

Norman Mack, Maklin Litho Plate Graining Co., Chicago, has been appointed chairman of the Exhibits Committee of the Chicago Club of Printing House Craftsmen. In this capacity, he will be responsible for assembling at each monthly meeting a display of outstanding material illustrating the subject of the evening's program. One of last season's most interesting displays was the exhibit of historical lithographs, valued at over $5,000, which was a feature of the "offset night" meeting. Mr. Mack plans to present displays of even greater interest during the coming season.

•

Revise "Halftone Processes"

J. J. Tepper Corp., New York, has just published a second revised edition of "Halftone Processes" by A. J. Lockrey. The book describes the making of a halftone negative and explains its application to the various reproduction processes including letterpress, lithography, photogravure, silk screen and collotype. Price $1.00.

•

Offer Photography Courses

The School of Modern Photography, New York, has issued a catalog describing its courses in black and white and color photography for both the amateur and the professional. Thumbnail biographies of the instructors are included along with examples of work produced by both the students and instructors.

ADVERTISERS' INDEX

SEPTEMBER, 1941

For Product Classification See Page 94

Agfa Ansco ..... 3rd Cover
Aljen Service 86
Aluminum Co. of America 20
American Graded Sand Co. 70
American Type Founders Corp. 22
American Writing Paper Corp. 12
Artists Supply Co. ..... Aug.

Baum, Russell Ernest 96
Beckett Paper Co., The 19
Bensing Bros. & Deeney 76
Bingham's, Sam'l, Son Mfg. Co. 21
Brewer-Cantelmo Co. 60

California Ink Co., Inc. ..... Aug.
Cambridge Instrument Co. ..... June
Champion Paper and Fibre Co. 24
Chicago Platemakers 11
Chillicothe Paper Co. 70
Christensen Machine Co., The 10
Classified Advertising 95
Coleman & Bell Co. 64
Color-Graphic Studios 84
Coxhead, Ralph C., Corp. 96
Craftint Mfg. Co., The ..... June
Cramer, G., Dry Plate Co. 88
Crescent Ink & Color Co. of Penna. 86

Day, Ben, Inc. 88
Defender Photo Supply Co., Inc. 78
Dixie Plate Graining Co. ..... Aug.
Douthitt Corp., The 54
Driscoll, Martin, Co. 84

Eastman Kodak Co. 41

Flint, Howard, Ink Co. Bet. 58 and 59
Fox River Paper Corp. ..... Aug.
Fuchs & Lang Mfg. Co., Div. General Ptg. Ink Corp. Bet. 10 and 11

Gaetjens, Berger & Wirth, Inc. 72
Gast Mfg. Corp. 88
Godfrey Roller Company 46
Goerz, C. P., American Optical Co. 90
Graphic Arts Corp. 3
Gugler, Hans 86

Hammer Dry Plate & Film Co. 84
Hammermill Paper Co. 96
Harris-Seybold-Potter Co. ..... 4th Cover
R. Hoe & Co. 9
Huebner Laboratories 82

Ideal Roller & Mfg. Co. 56
Illinois Plate Graining Co. 78
Illinois Zinc Co. ..... July
International Business Machines Corp. 48
International Press Cleaner & Mfg. Co. 92
International Printing Ink Corp. 8

Johnson Stop and Indicator Co. 92

Kellogg Division, American Brake Shoe & Foundry Co. ..... July
Kelly, E. J., Ink Co. 92
Kimble Electric Co. ..... Aug.
Knop & Brauer, Inc. ..... Bet. 66 & 67

La Motte Chemical Products Co. 92
Lanston Monotype Machine Co. ..... May
Litho Chemical & Supply Co. 7
Litho Plate Grainers of Detroit 92
Lithographic Plate Graining Co. of America, Inc. 80

Maklin Litho Plate Graining Co. 42
Mallinckrodt Chemical Works ..... Aug.
Mead Corp., The ..... Aug.
Merck & Co., Inc. 23
Modern Litho Print Co. 96

National Carbon Company, Inc. (Carbon Sales Division) 68
Neenah Paper Co. ..... Aug.
Norman Willets Co. 74

Offset Fine Arts, Inc. 90
F. G. Okie, Inc. 74

Phillips Color Laboratory ..... Aug.
Photo Litho Plate Co. 88
Photo Litho Plate Graining Co., The 96
Pitman, Harold M., Co. 13
Port Huron Sulphite & Paper Co. 84

Rapid Roller Co. 6
Rathbun & Bird Co., Inc., The 92
Reliable Lithographic Plate Co. 72
Lewis Roberts, Inc. 52
Roberts & Porter, Inc. 15
H. D. Roosen Co. 90
Rutherford Machinery Co., Div. General Printing Ink Corp. 17

Senefelder Co., Inc. ..... 2nd Cover and 4
Siebold, J. H. & G. B., Inc. 82
Sinclair & Carroll Co. 68
Sinclair and Valentine Co. Bet. 18 & 19
Sorg Paper Co., The 92
Standard Litho Graining Co. 90
Stark, John, Laboratories ..... July
Strathmore Paper Co. ..... June
Swart-Reichel, Inc. 82

Taylor, W. A., & Co., Inc. 18
Texas Offset Supply Co. ..... June

Underwood-Elliott-Fisher Co. 16
U. S. Finishing & Mfg. Co. 96

Vulcan Proofing Co. 44

Warren, S. D., Co. ..... Bet. 50 and 51
West Virginia Pulp & Paper Co. ..... June
Western Litho Plate & Supply Co. 82
"Where-to-Buy-It" 94
George A. Whiting Paper Co. 18
Wrenn Paper Co., The 64

Zarkin Machine Co. 76

(The Advertisers' Index has been carefully checked but no responsibility can be assumed for any omission.)

"What's that, Cuthbert,—they never heard of our firm?"

Among the Unknowns . . .

PEOPLE don't like to do business with strangers. Sales resistance is materially reduced if buyers know your firm, either directly or by reputation. Regular trade paper advertising can aid greatly in making and keeping your firm and your products better known . . . making for better acceptance of your products . . . and making it easier for your salesmen to sell.

To make and keep your firm and products better known in the lithographic field we suggest regular advertising in

MODERN LITHOGRAPHY

254 West 31st Street New York, N. Y.

Tale Ends

BECAUSE it included taxes on outdoor advertising and the sale of advertising by radio broadcasting stations, the tax bill approved last month by the House indicates that all advertising is going to face some pretty rough going in the months ahead. The trend is against advertising per se, not what is said in advertising. While the Outdoor Advertising Association is of the opinion that the tax on their medium as well as the tax on radio advertising will be eliminated from the bill when it reaches the Senate, due to the fact that this would be discriminating against two advertising media in favor of the others, at the same time there is no question but that all advertising is in great danger of being penalized in the form of taxes.

Long before the present emergency certain government factors were throwing out trial balloons to see how far they could go in trying to curb advertising. Now that the defense emergency provides the excuse the threats have become more direct. OPACS, for example, in line with its duties of fixing prices, has indicated that it will expect cuts in advertising expenditures before it will permit price rises. OPACS takes the theory that advertising is a non-essential in the cost of distribution. Lithographers too are fairly familiar with the attitude shown by Assistant Attorney General Thurman Arnold recently as regards advertising. A questionnaire he sent out to the leading gasoline and oil companies asking them why they advertise their products crystalized his feelings on the matter. He said these companies created an insistent demand for these products through advertising and then used the demands as a means of forcing the retail station to buy their whole line of products. Mr. Arnold seems to be of the opinion that a limit should be placed on the success of a national advertising campaign. There is not much lithographers or anyone else can do at present about this attitude of official Washington except be prepared for anything to happen.

How many sides has a diamond?

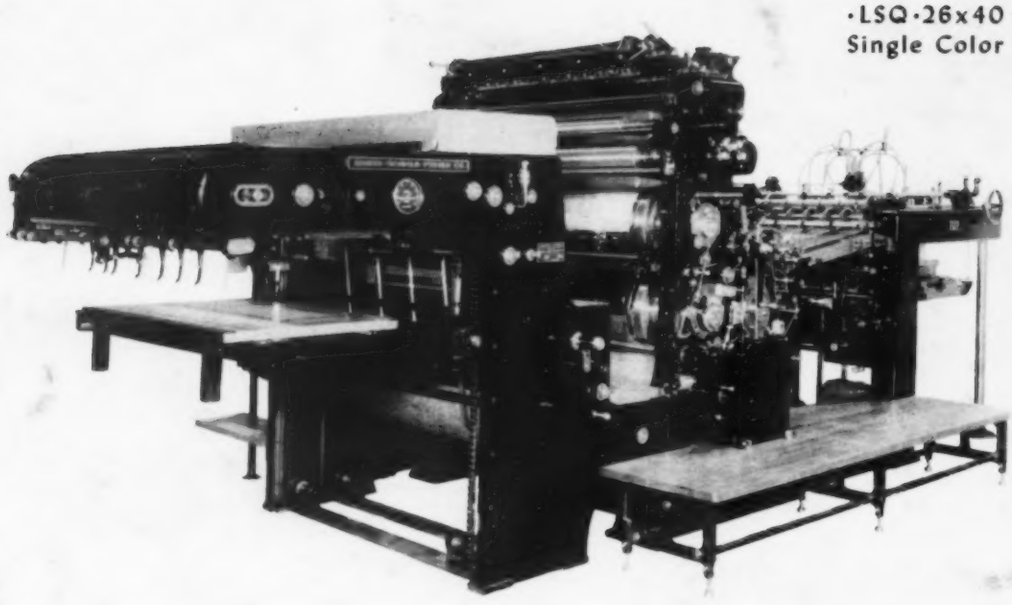
MIGHT as well ask how many parts in a press—for the number depends on the design.

Requirements are more definite when you consider sensitized materials—for film has a specific job to fill in lithographic work. But the many-sided versatility of Agfa Reprolith films brings advantages that every lithographer should know about. There are, for example, regular, ortho and pan emulsion types to choose from. Other properties of these outstanding films include: brilliant contrast: high resolving power; wide development latitude: and effective anti-halation coating.

Try Reprolith for yourself. Its dependable excellence and extra margin of quality will bring you the satisfaction that results when using fine materials. **Graphic Arts Division. Agfa Ansco, Binghamton, N. Y.**

Agfa Reprolith Films

MADE IN U. S. A.



·LSQ·26x40
Single Color

THE WEIGHT OF EVIDENCE CONTINUES TO STRENGTHEN

HARRIS DOMINANCE

IN OFFSET PRODUCTION . . .

The preponderance of Harris installations in established Lithographic plants throughout the country, and the preference for Harris equipment in new plants, confirm its successful performance and firmly establish Harris as the press of Modern Offset.

Harris dominance has been attained only through high performance in the pressroom. Continued preference for Harris equipment is the tribute paid to pioneer builders of successful Offset presses by the large majority of leading lithographers who depend upon Harris presses for superior execution of ideas.

Through research, Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

HARRIS OFFSET PRESSES

·HARRIS·SEYBOLD·POTTER·COMPANY·

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES

General Offices: 4510 East 71st St., Cleveland, Ohio • *Harris Sales Offices:* New York, 330 West 42nd St. • Chicago, 343 So. Dearborn St. • Dayton, 819 Washington St. • Atlanta, 120 Spring St., N.W. • San Francisco, 420 Market St. • Harris-Seybold-Potter (Canada) Ltd., Toronto, Montreal • *Factories:* Cleveland, Dayton